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	Total Motor	52 2/B3	76 2/E9
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ORIGINAL

NASA Contractor Report 3239

NASA TLA Workload Analysis Support

Volume 2 - Metering and Spacing Studies Validation Data

James L. Sundstrom

CONTRACT NAS1-13741
JULY 1980

NASA

403

NASA Contractor Report 3239

NASA TLA Workload Analysis Support

Volume 2 - Metering and Spacing Studies Validation Data

James L. Sundstrom
Boeing Commercial Airplane Company
Seattle, Washington

Prepared for
Langley Research Center
under Contract NAS1-13741

National Aeronautics
and Space Administration

Scientific and Technical
Information Office

1980

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2.2	Byers 2D Approach		
	Workload Histogram (WLH)		
	Total Vision	51	75
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VOLUME 2 INTRODUCTION

1.0 INTRODUCTION

Volume 2 consists of four sets of TLA graphic reports - one each for the Metering and Spacing scenarios - plus the complete data file from which the reports were generated. Each set of reports is complete for both the pilot and copilot. As can be seen in the index the data is presented for the pilot and then the copilot.

The data presented in this volume were used to validate the data construction of the detailed task scenarios. The outputs present two measures of demand workload and a report showing task length and task interaction. The measure of workload are the Workload Histogram (WLH) and the Workload Summary (WLS). The remaining report output is the Mission Timeline.

The Workload Histograms (WLH) provides a picture of peak demand workload for each ten second intervals of the scenario. Demand workload (Wd) is defined to be the level of effort required to perform a task at a specific time. It is calculated with the following formula:

$$Wd = \frac{\text{TIME REQUIRED FOR THE TASK}}{\text{TIME AVAILABLE (INTERNAL)}} \times 100$$

The WLH's provide an easy and convenient way of examining workload and/or comparing workload between scenarios. They also provide an excellent way of identifying areas which may require investigation due to the workload spike or drop.

The Workload Summaries (WLS) provide a picture of average workload, plus one standard deviation by phase of flight. This measure is presented as a

barchart. Where the WLH shows the complete scenario workload the WLS emphasizes workload during the phase. Also, the WLH does not account for the effects of potential workload as indicated by the standard deviation on the WLS graphics.

The last report presented in each grouping of reports is the Mission Timeline (MTL) report. This shows the tasks as they occur in time. Each task is defined as a horizontal bar indicating the time required to perform the task. The major factor shown in the MTL is the interaction of tasks. Primarily this report is used for analysis and report purposes. It is rarely used as a data debugging tool.

The last section of this volume contains a copy of the data file used to generate the Metering and Spacing scenarios and their report outputs.

2.0 METERING AND SPACING SCENARIO VALIDATION DATA

The following sections, 2.1 through 2.4, present the output data used to validate the scenarios. The data is presented by crewmember and then by report type as indicated by the index.

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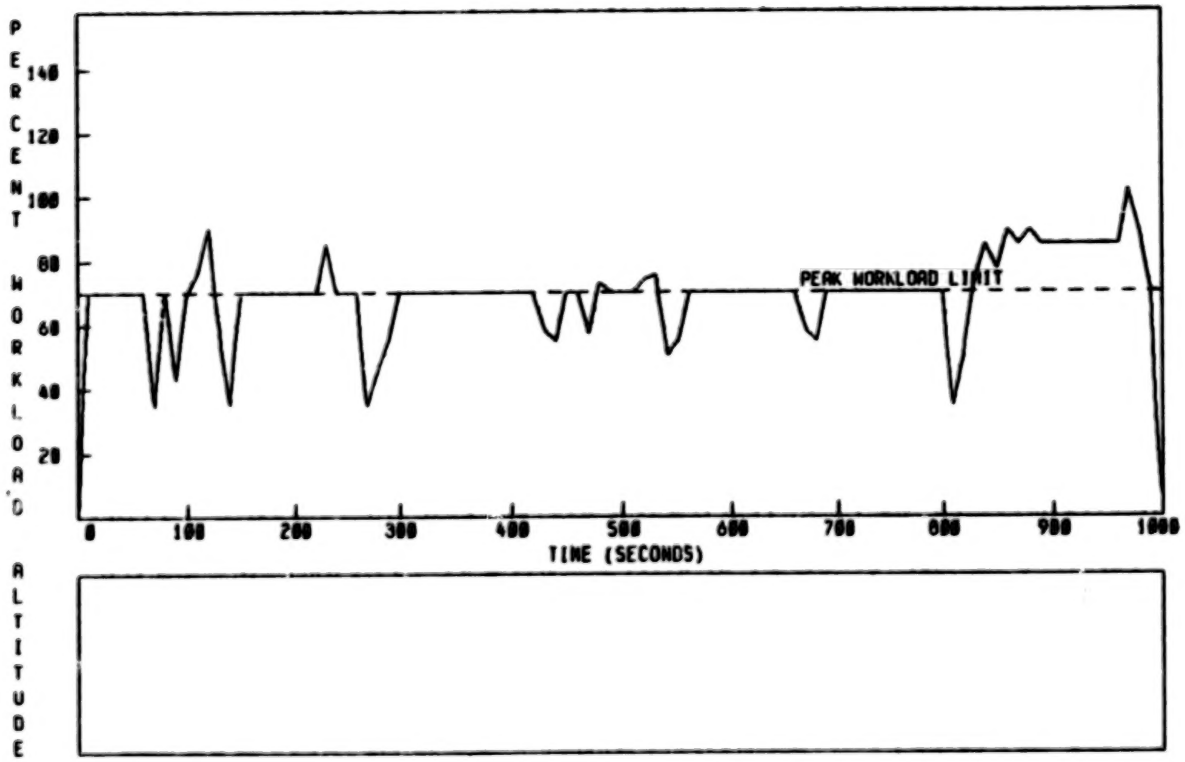
UNSHIFTED
AUG 14, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- TOTAL VISION
CONFIGURATION- AFD SIMULATOR

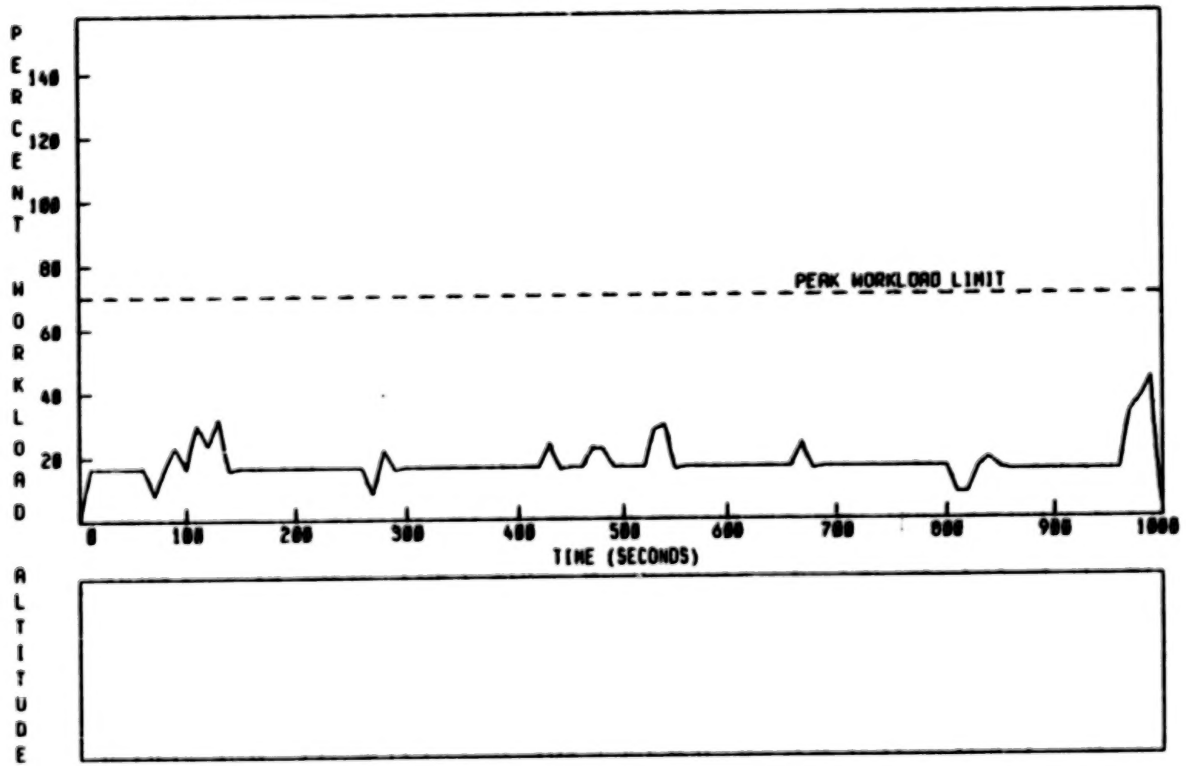
MISSION
DENVER BYRZMC APP/LN
WITH HOLDING PTTN



UNSHIFTED
AUG 14, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- TOTAL MOTOR
CONFIGURATION- AFD SIMULATOR

MISSION
DENVER BYRZNC APP/LN
WITH HOLDING PTTN



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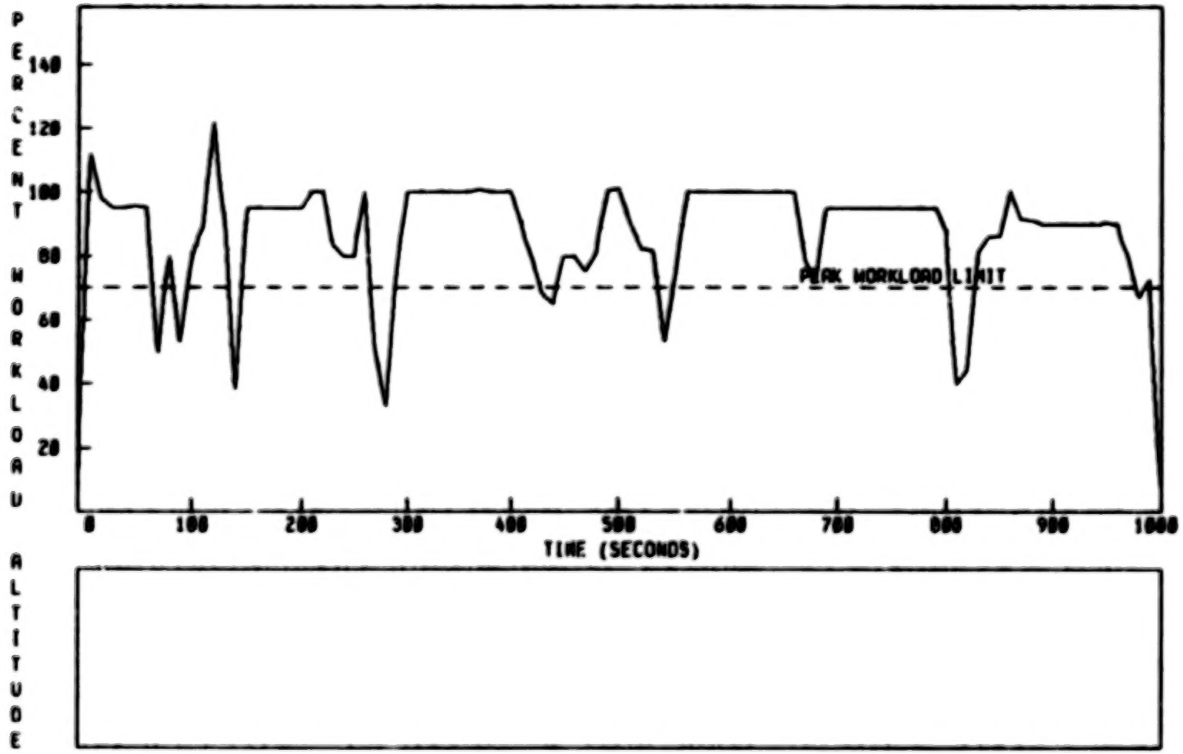
UNSHIFTED
AUG 14, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- COGNITION
CONFIGURATION- AFD SIMULATOR

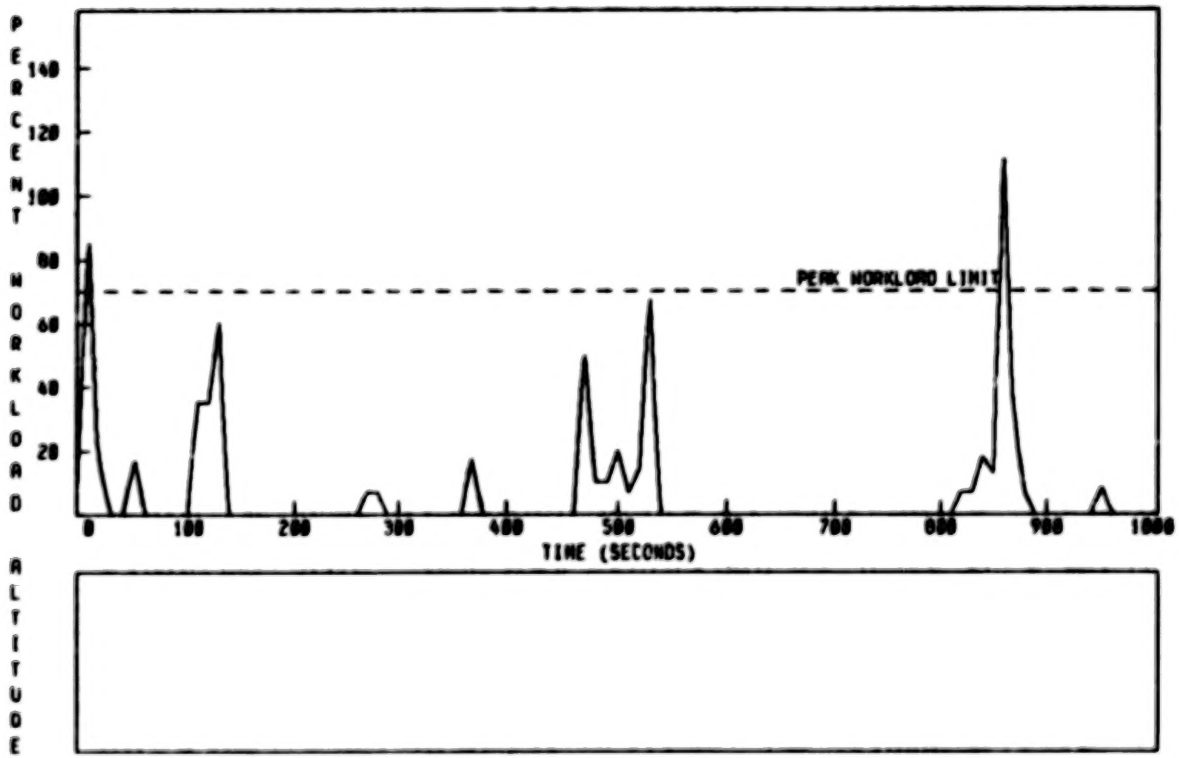
MISSION
DENVER BYRZNC APP/LN
WITH HOLDING PTTN



UNSHIFTED
AUG 14, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- TOTAL COMMUNICATION
CONFIGURATION- AFD SIMULATOR

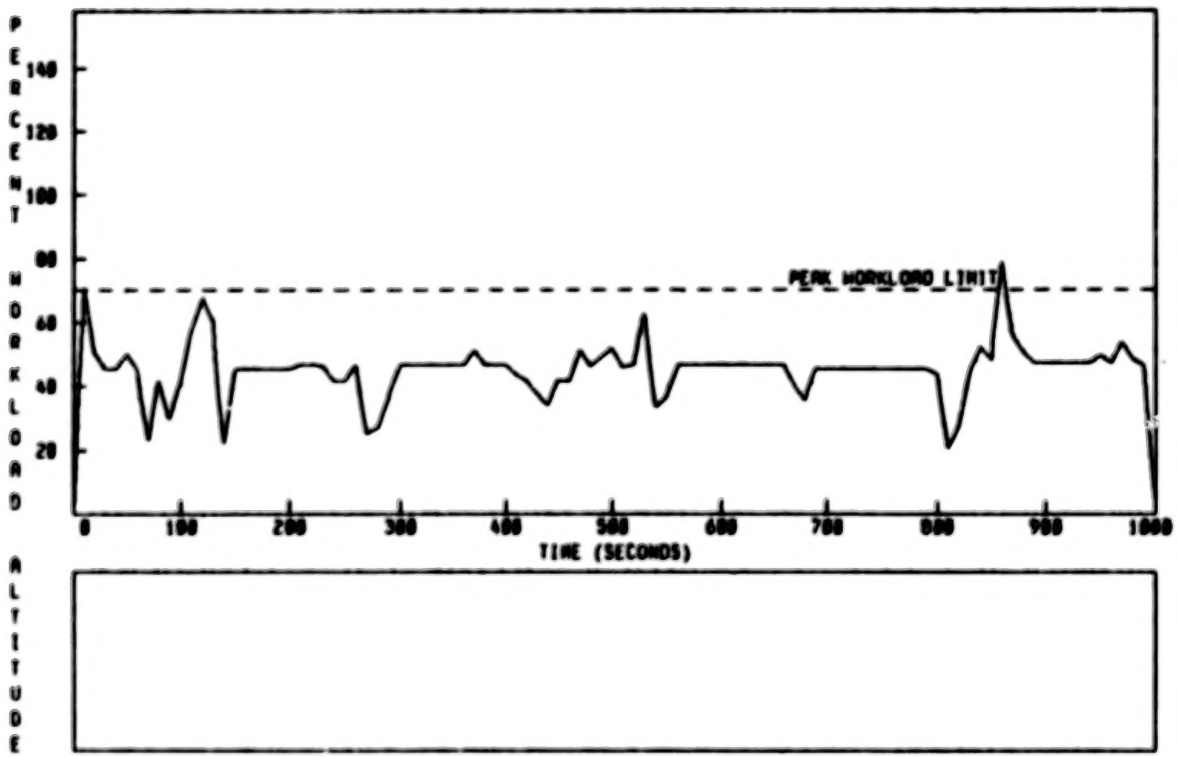
MISSION
DENVER BYRZNC APP/LN
WITH HOLDING PTTN



UNSHIFTED
AUG 14, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- WEIGHTED CHANNEL AVERAGE
CONFIGURATION- AFD SIMULATOR

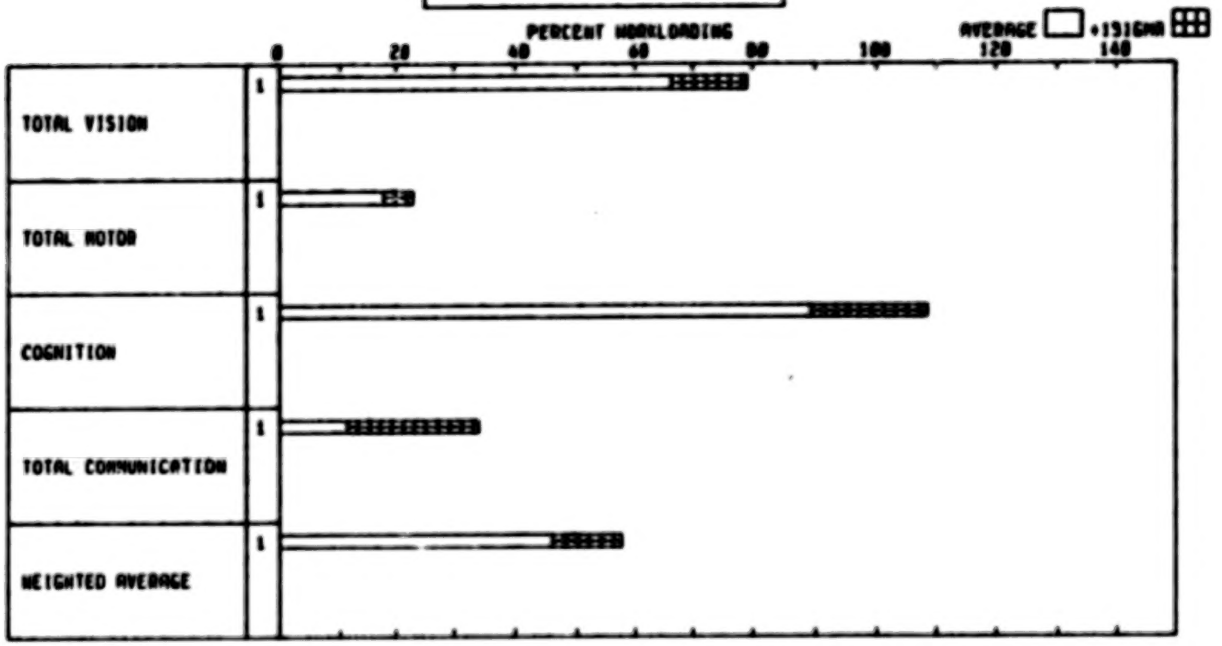
MISSION
DENVER BYRZMC APP/LN
WITH HOLDING PTTN



UNSHIFTED

WORKLOAD SUMMARY
CREWMEMBER - PILOT

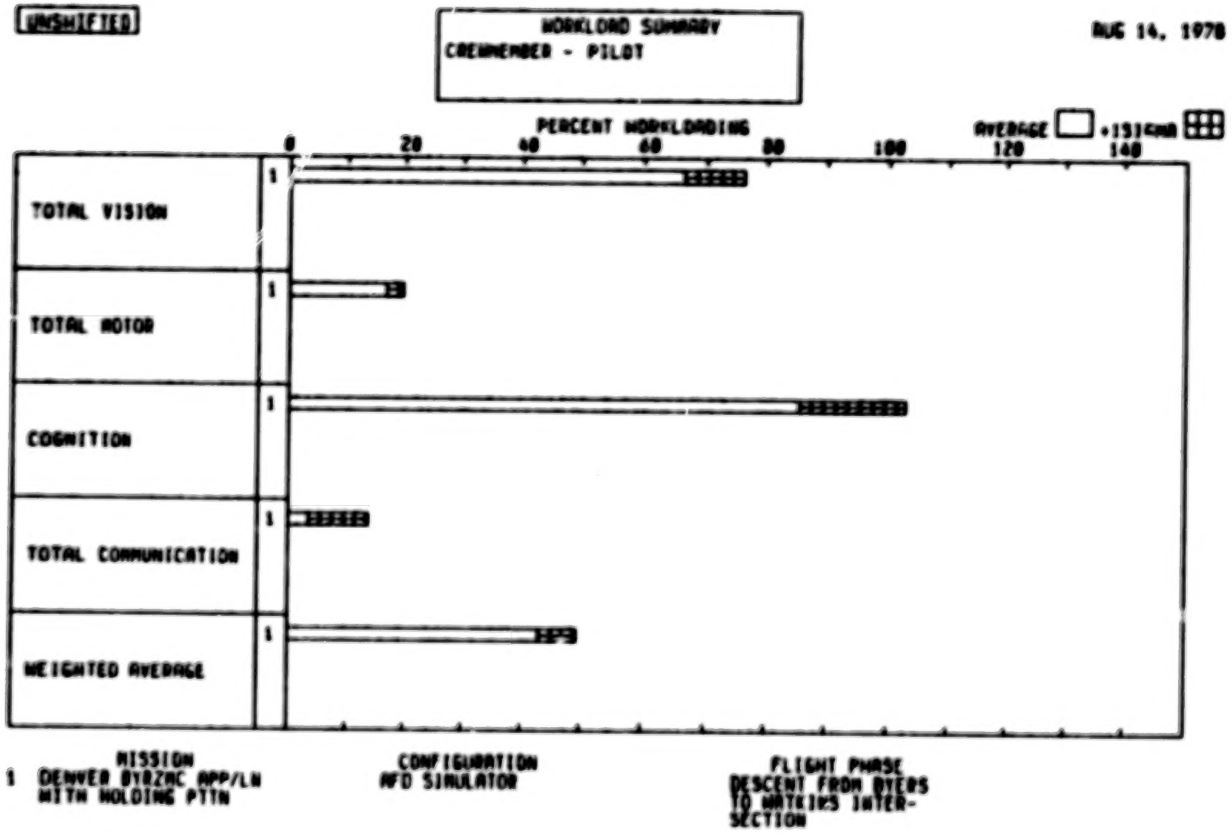
AUG 14, 1978



MISSION
1 DENVER BYRZAC APP/LN WITH HOLDING PTTN

CONFIGURATION
AFD SIMULATOR

FLIGHT PHASE
BTERS APPROACH TO LANDING FROM ENROUTE CRUISE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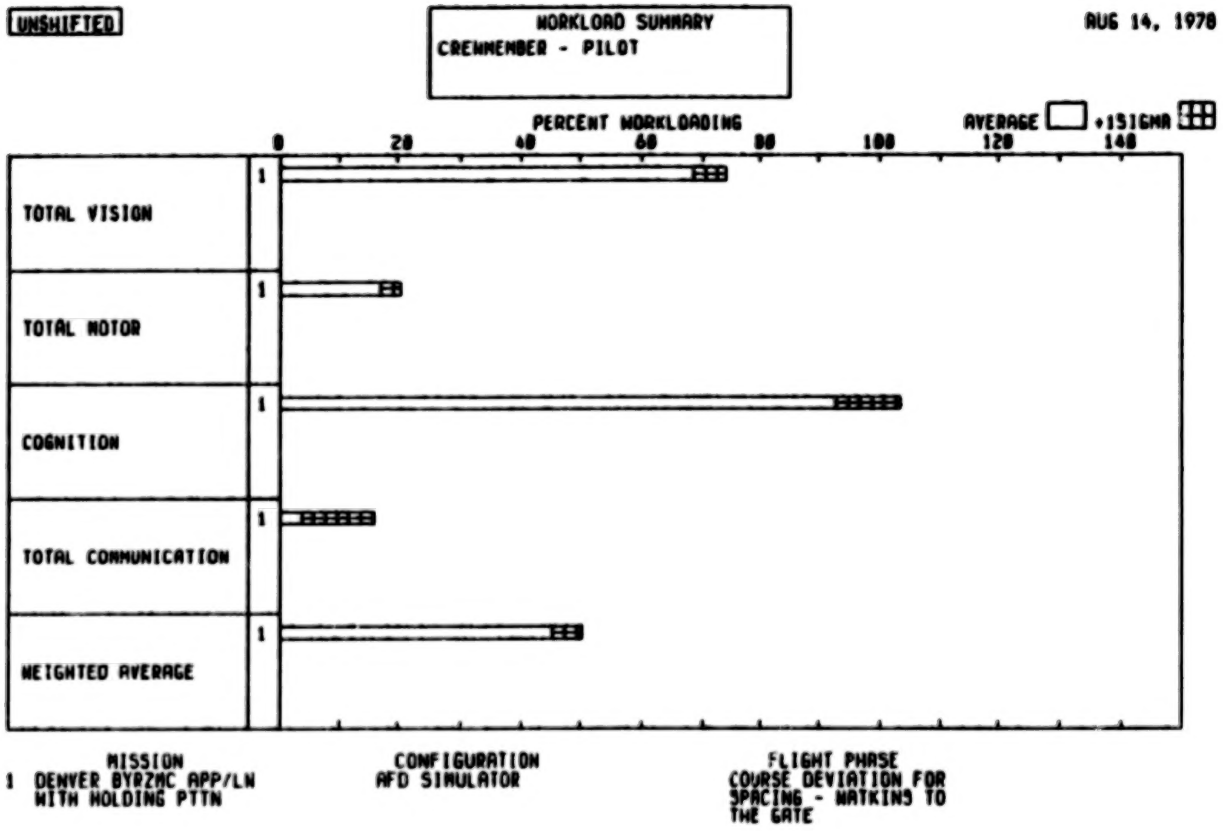
WORKLOAD SUMMARY
CREWMEMBER - PILOT
AUG 14, 1978
PERCENT WORKLOADING
0
20
40
60
80
100
120
140
AVERAGE
+1 STD DEV
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 DENVER BYRZAC APP/LN WITH HOLDING PTTN
CONFIGURATION
AFD SIMULATOR
FLIGHT PHASE
DESCENT FROM BYERS TO WATKINS INTERSECTION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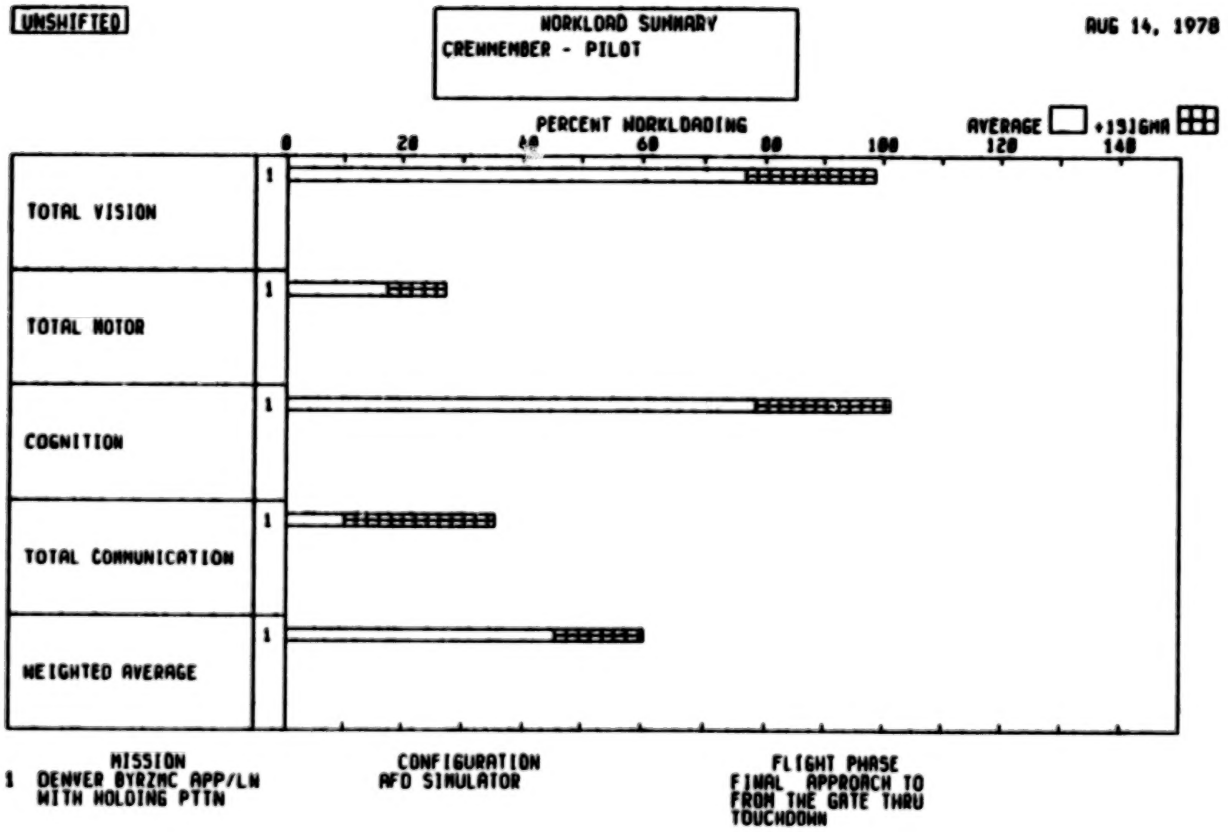
WORKLOAD SUMMARY
CREWMEMBER - PILOT
AUG 14, 1978
PERCENT WORKLOADING
AVERAGE
+1SIGMA
0
20
40
60
80
100
120
140
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 DENVER BYRZMC APP/LN WITH HOLDING PTTN
CONFIGURATION
AFD SIMULATOR
FLIGHT PHASE
COURSE DEVIATION FOR SPACING - WATKINS TO THE GATE

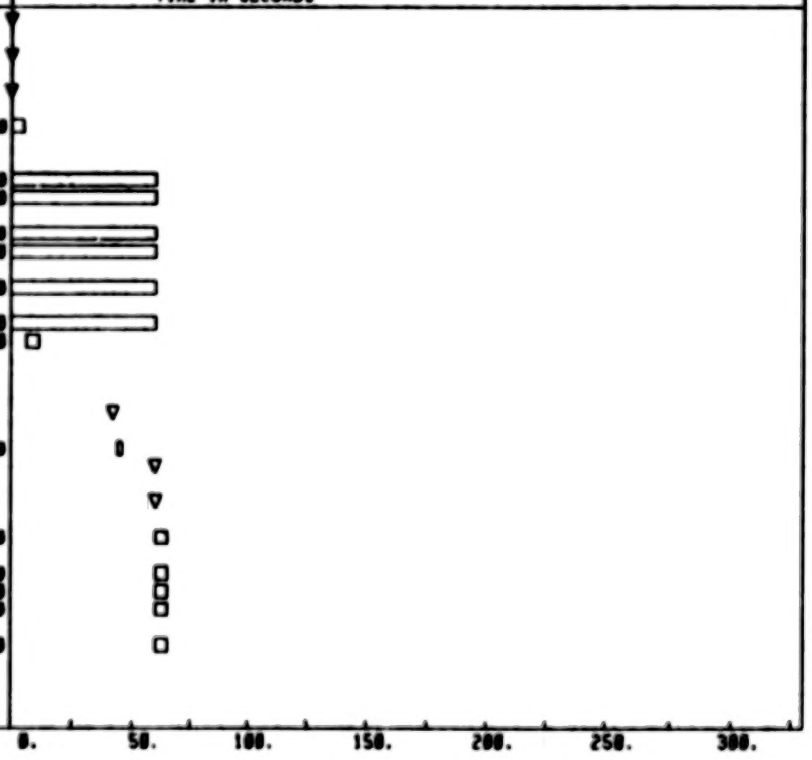

UNSHIFTED
WORKLOAD SUMMARY
CREWMEMBER - PILOT
AUG 14, 1978
PERCENT WORKLOADING
AVERAGE
+1SIGMA
0
20
40
60
80
100
120
140
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 DENVER BYRZAC APP/LN WITH HOLDING PTTN
CONFIGURATION
AFD SIMULATOR
FLIGHT PHASE
FINAL APPROACH TO FROM THE GATE THRU TOUCHDOWN

UNSHIFTED

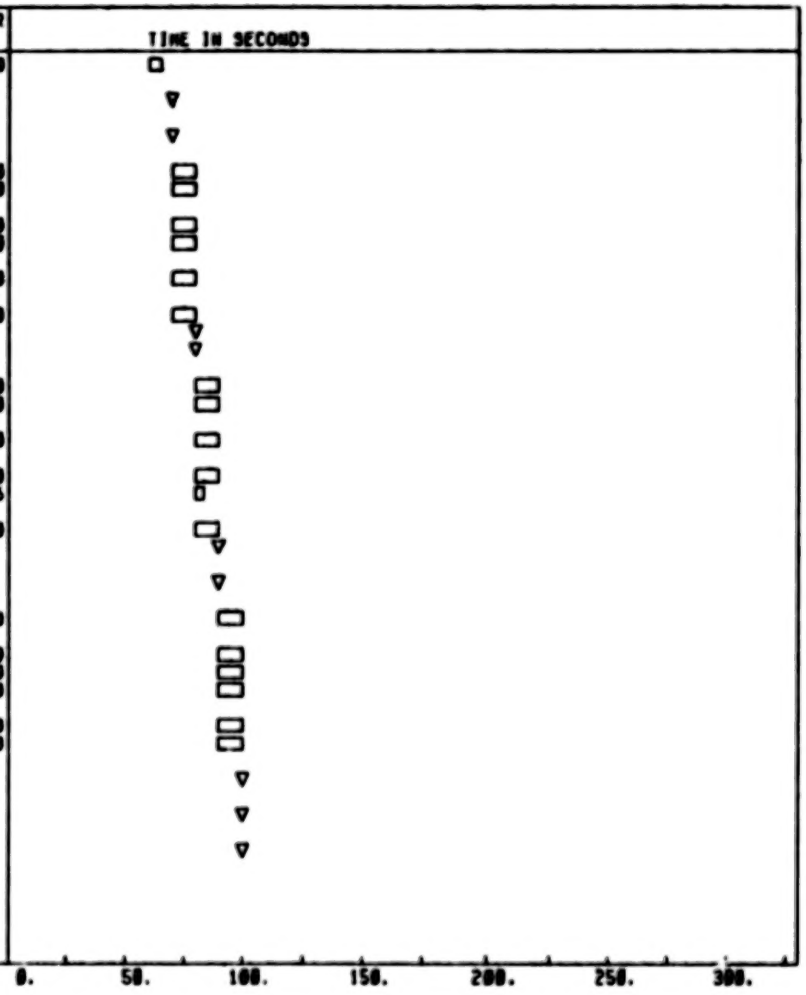
MISSION TIMELINE
MISSION - DENVER BYRZMC APP/LN
WITH HOLDING PTTN
CONFIGURATION - AFD SIMULATOR
FLIGHT PHASE -BYERS APPROACH TO
LANDING FROM ENROUTE
CRUISE
CREWMEMBER - PILOT

AUG 14, 1978

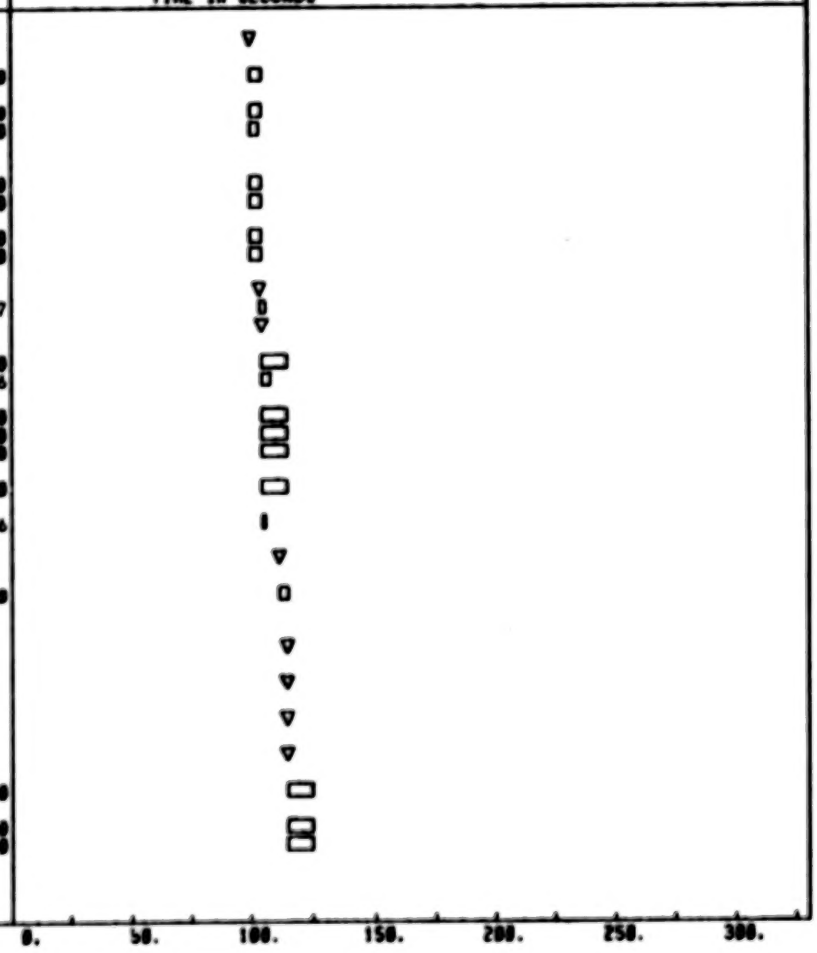
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
BYRZ01	START OF FLIGHT SCENARIO MESSAGE	
MCA605	CONTROL AIRCRAFT - F (60 SEC PROC)	
ISP605	FLIGHT INSTRUMENT SCAN - F	
1PBYRZ01	MON COM- UNITED 24, CONTACT DENVER APPCH ON 120.95	5.00
4A 65	MANUALLY CONTROL A/C	60.00
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	60.00
2J 42	MON EADI	60.00
3L 02	MON VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EHSI DISPLAY	60.00
1PBYRZ03	MON COM- UNITED 24, DENVER, PROCEED TO BYERS DESCEND AND MAINTAIN 13000	5.00
140823	REPORT 1000 FT TO LEVEL OFF	
1P 11	MON VERBAL REPORT	1.70
MCA855	CONTROL AIRCRAFT - A (5 SEC PROC)	
ISP855	FLIGHT INSTRUMENT SCAN - A	
3A 10	MONITOR AIRSPEED INDIC	5.00
2K 16	MON EHSI DISPLAY	5.00
4A 64	MANUALLY CONTROL A/C	5.00
4B 89	ACTUATE THROTTLES TO ADJUST AIRSPEED	5.00
2J 42	MON EADI	5.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
9L 02	MON VERTICAL SPEED INDIC	5.00
MCA105	CONTROL AIRCRAFT - B (10 SEC PROC)	
ISP105	FLIGHT INSTRUMENT SCAN - B	
4A 64	MANUALLY CONTROL A/C	10.00
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00
2J 42	MON EADI	10.00
9L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
BYRZ50	UAL 24 REACHES 13000	
ALTCUP	ACTUATE VCWS TO END DESCENT	
3H 06	MON ALTIMETER	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 32	MON ALT/RNG SYMBOLS	10.00
4F 01	SET SPD BRAKE LEVER TO DOWN	3.26
4A 64	MANUALLY CONTROL A/C	10.00
MCA105	CONTROL AIRCRAFT - B (10 SEC PROC)	
ISP105	FLIGHT INSTRUMENT SCAN - B	
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
4A 64	MANUALLY CONTROL A/C	10.00
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00
2J 42	MON EADI	10.00
9L 02	MON VERTICAL SPEED INDIC	10.00
BYRZ51	U 24 CLEARED FOR DESCENT	
BYRZ02	RECEIVE CLEARANCE TO 12000	
MCA055	CONTROL AIRCRAFT - A (5 SEC PROC)	

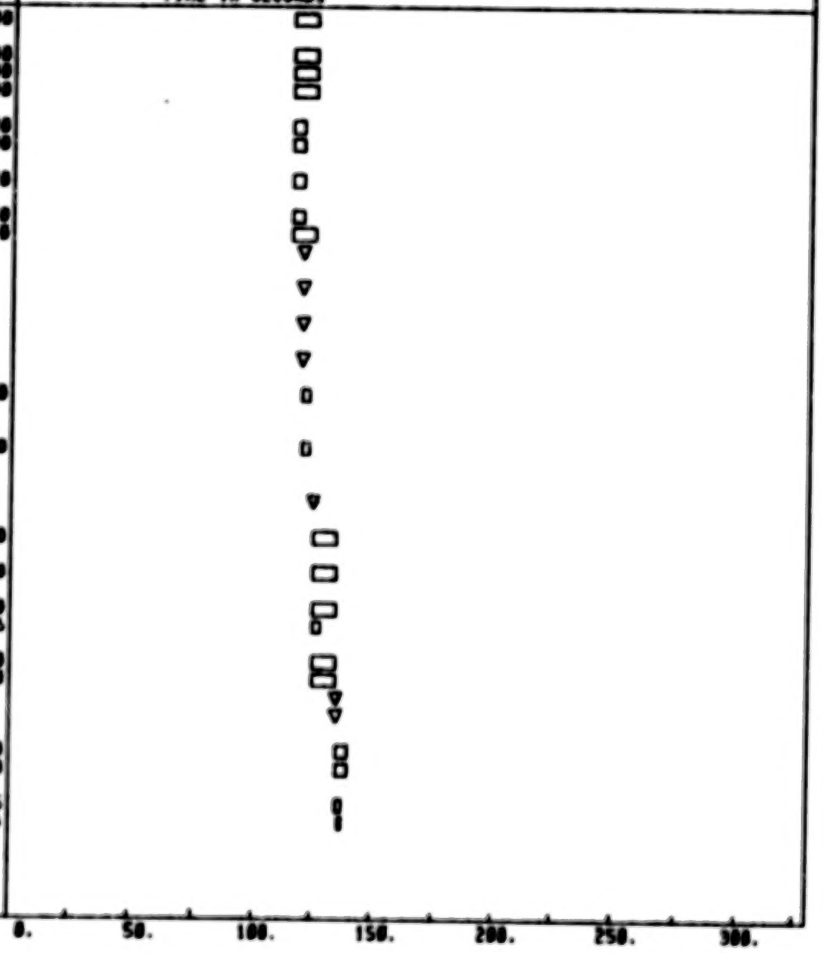


CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
ISP055	FLIGHT INSTRUMENT SCAN - A	
3A 10	MONITOR AIRSPEED INDIC	5.00
2K 16	MON ENSI DISPLAY	5.00
1PBYA205	MON CALL- UNITED 24 DESCEND AND MAINTAIN 12000.	3.50
4A 64	MANUALLY CONTROL A/C	5.00
4B 89	ACTUATE THROTTLES TO ADJUST AIRSPEED	5.00
2J 42	MON EADI	5.00
3L 82	MON VERTICAL SPEED INDIC	5.00
AFDALT	ALTITUDE CHANGE PROC	
2H 33	ROTATE ALT ENG KNOB	2.47
ALTCON	ACTUATE VCWS TO START DESCENT	
2K 32	MON ALT/RNG SYMBOLS	10.00
4F 85	SET SPEED BRAKE LEVER TO FLT DETENT	5.26
4A 64	MANUALLY CONTROL A/C	10.00
3H 86	MON ALTIMETER	10.00
3L 82	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2H 34	READ ALT ENG VALUE ON DIGITAL INDIC	1.06
BYA203	RECEIVG CLEARANCE TO 11000	
1PBYA207	MON COMM- UNITED 24 DESCEND AND MAINTAIN 11000.	3.50
MCA105	CONTROL AIRCRAFT - B (10 SEC PROC)	
ISP055	FLIGHT INSTRUMENT SCAN - A	
MCA105	CONTROL AIRCRAFT - B (10 SEC PROC)	
ISP105	FLIGHT INSTRUMENT SCAN - B	
4B 89	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00
2J 42	MON EADI	10.00
3L 82	MON VERTICAL SPEED INDIC	10.00

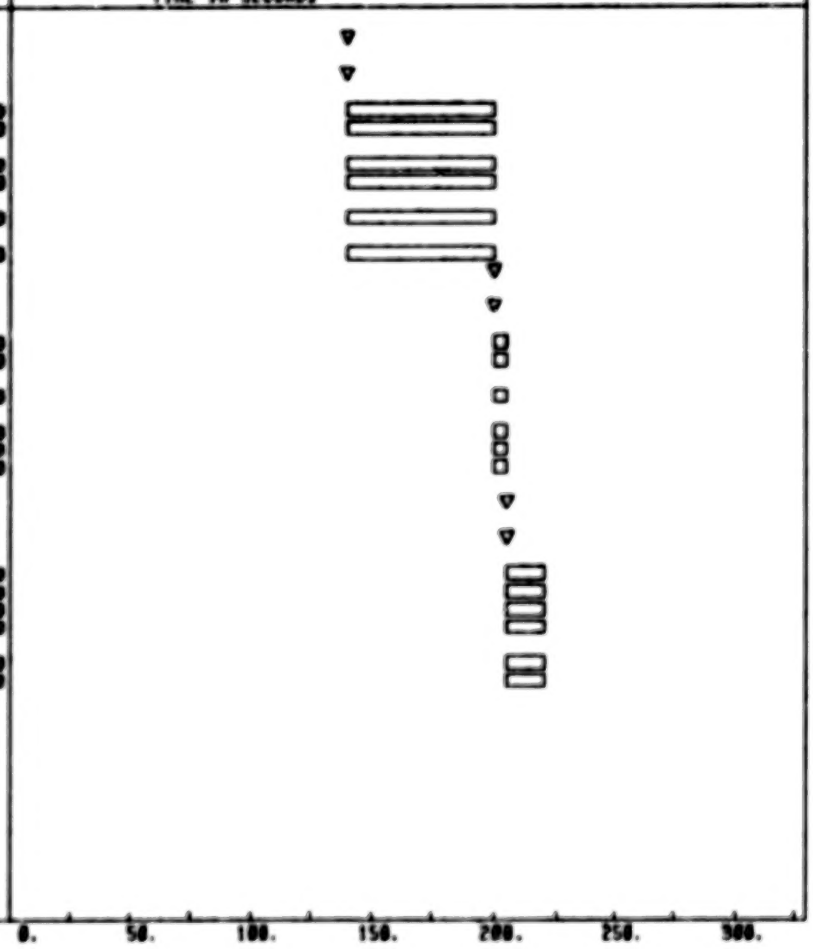


CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
9A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
4A 64	MANUALLY CONTROL A/C	10.00
4B 89	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00
2J 42	MON EADI	5.00
3L 82	MON VERTICAL SPEED INDIC	5.00
3A 18	MONITOR AIRSPEED INDIC	5.00
2K 16	MON EHSI DISPLAY	5.00
4A 64	MANUALLY CONTROL A/C	10.00
BYRZ52	U 24 SPEED REDUCTION TO 250 KTS	
BYRZ71	U 24 ENDS DESCENT FOR SPEED REDUCTION	
BYRZ84	RECEIVG SPEED REDUCT TION TO 250 KTS	
BYRZ84	RECEIVG SPEED REDUCT TION TO 250 KTS	
1PBYRZ89	MON COMM- UNITED 24 REDUCE SPEED TO 250 KNOTS.	3.00
1PBYRZ89	MON COMM- UNITED 24 REDUCE SPEED TO 250 KNOTS.	3.00
ALTCUP	ACTUATE VCWS TO END DESCENT	
3L 82	MON VERTICAL SPEED INDIC	10.00
3A 18	MONITOR AIRSPEED INDIC	10.00
2K 32	MON ALT/RNG SYMBOLS	10.00
4F 81	SET SPD BRAKE LEVER TO DOWN	5.26
4A 64	MANUALLY CONTROL A/C	10.00
9H 86	MON ALTIMETER	10.00
AFDSPD	AIRSPEED CHANGE PROC	
MCRBSS	CONTROL AIRCRAFT - A (5 SEC PROC)	
4A 64	MANUALLY CONTROL A/C	5.00
4B 89	ACTUATE THROTTLES TO ADJUST AIRSPEED	5.00
2H 47	ROTATE CAS ENG KNOB	2.45
2H 48	READ CAS ENG VALUE ON DIGITAL INDIC	1.04

TIME IN SECONDS



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
MCA60S	CONTROL AIRCRAFT - P (60 SEC PROC)	
ISP60S	FLIGHT INSTRUMENT SCAN - P	
4A 05	MANUALLY CONTROL A/C	60.00
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	60.00
2J 42	MON EADI	60.00
3L 02	MON VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EHSI DISPLAY	60.00
MCA05S	CONTROL AIRCRAFT - A (5 SEC PROC)	
ISP05S	FLIGHT INSTRUMENT SCAN - A	
2J 42	MON EADI	5.00
3L 02	MON VERTICAL SPEED INDIC	5.00
3A 10	MONITOR AIRSPEED INDIC	5.00
2K 16	MON EHSI DISPLAY	5.00
4A 04	MANUALLY CONTROL A/C	5.00
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	5.00
MCA15S	CONTROL AIRCRAFT - A (15 SEC PROC)	
ISP15S	FLIGHT INSTRUMENT SCAN - C	
3A 14	MON AIRSPEED INDIC	15.00
2K 16	MON EHSI DISPLAY	15.00
4A 31	MANUALLY CONTROL A/C	15.00
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	15.00
2J 43	MON EADI	15.00
3L 04	MON IVSI INDIC	15.00

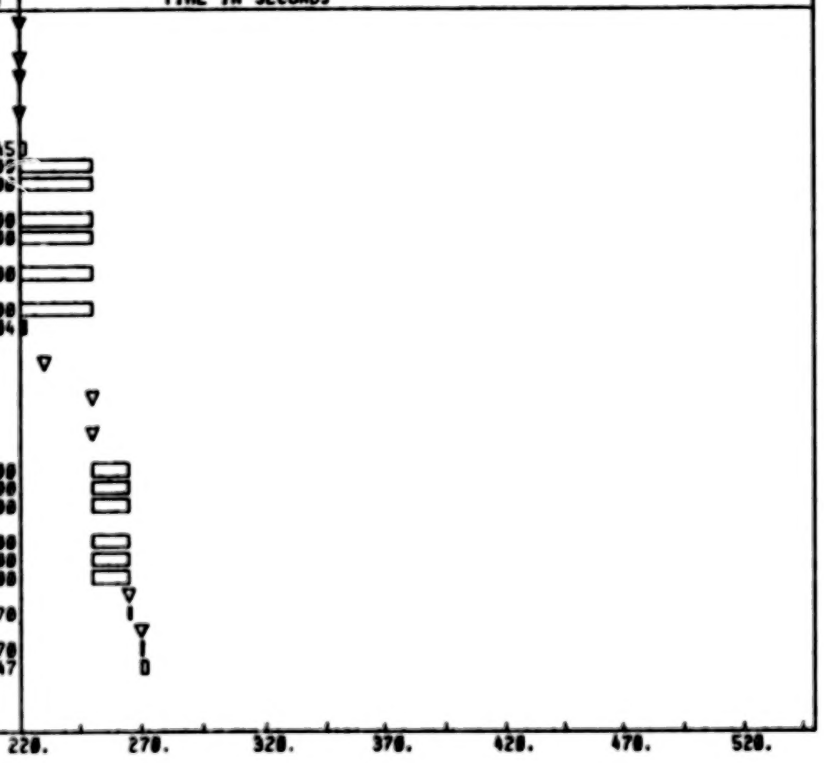


UNSHIFTED

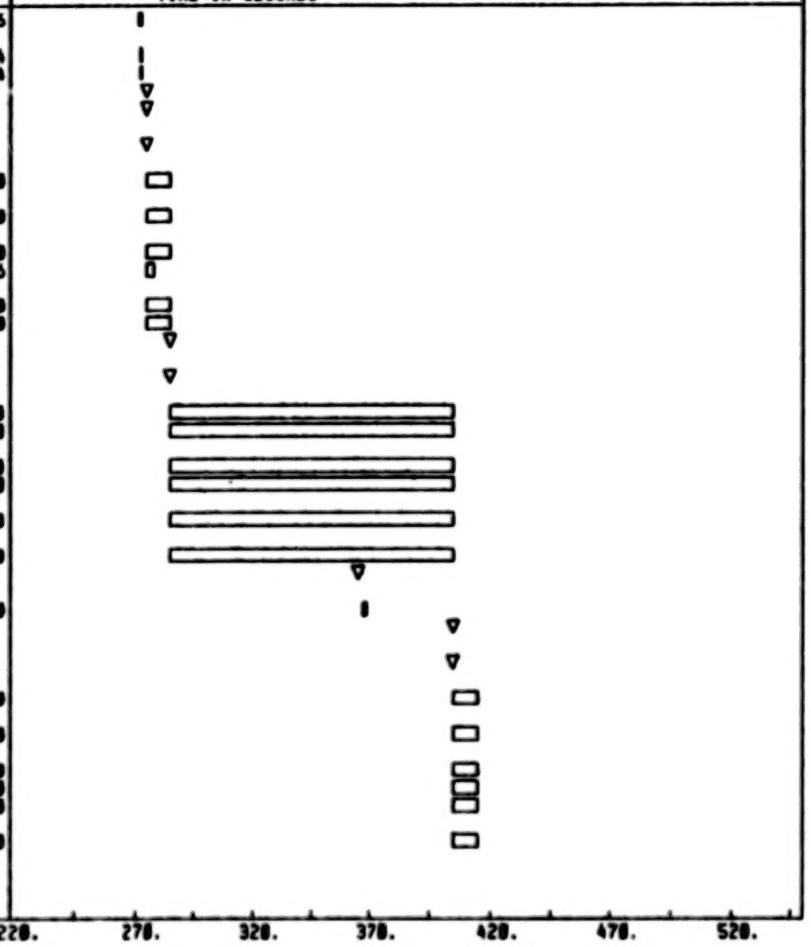
MISSION TIMELINE
MISSION - DENVER BYRZMC APP/LN WITH HOLDING PTTN
CONFIGURATION - AFD SIMULATOR
FLIGHT PHASE - DESCENT FROM BYERS TO WATKINS INTERSECTION
CREWMEMBER - PILOT

AUG 14, 1978

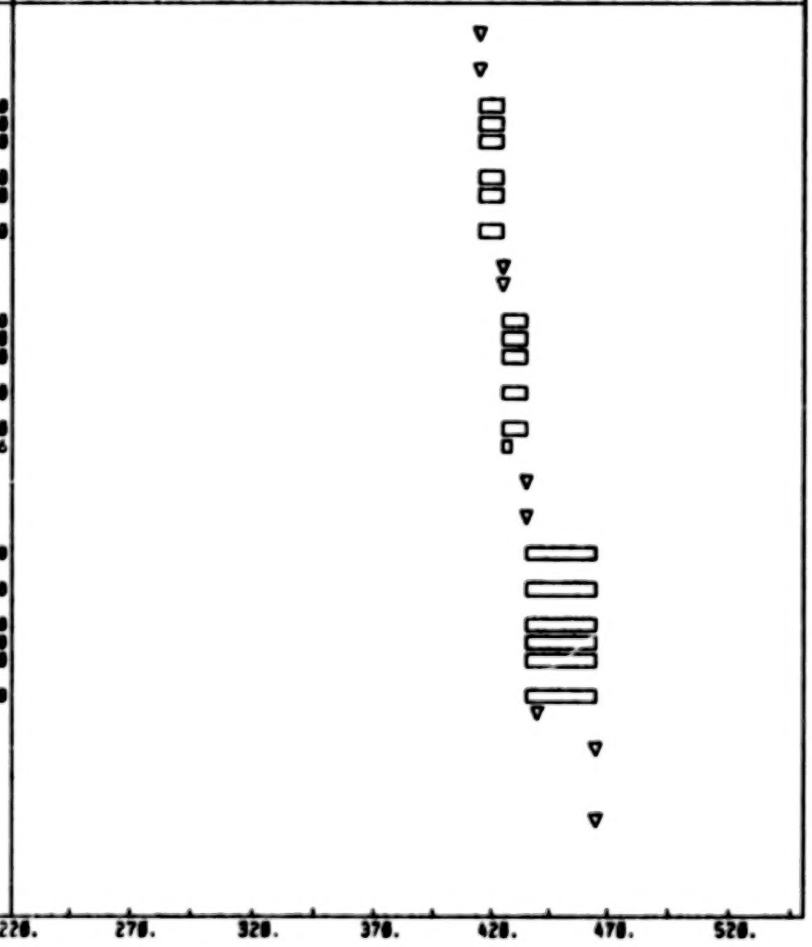
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
BYRZ53	U 24 SPEED REDUCTION TO 200 KTS	
AFDSPD	AIRSPEED CHANGE PROC	
MCA305	CONTROL AIRCRAFT - C (30 SEC PROC)	
ISP305	FLIGHT INSTRUMENT SCAN - E	
2H 47	ROTATE CAS ENG KNOB	2.45
4A 64	MANUALLY CONTROL A/C	30.00
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	30.00
2J 42	MON EADI	30.00
9L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
2H 48	READ CAS ENG VALUE ON DIGITAL INDIC	1.84
BYRZ54	U 24 CROSSES BYERS INTERSECTION < 11000	
MCA155	CONTROL AIRCRAFT - A (15 SEC PROC)	
ISP155	FLIGHT INSTRUMENT SCAN - C	
2K 16	MON EHSI DISPLAY	15.00
4A 31	MANUALLY CONTROL A/C	15.00
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	15.00
2J 43	MON EADI	15.00
9L 04	MON IVSI INDIC	15.00
3A 14	MON AIRSPEED INDIC	15.00
160811	SET FLAPS TO FLAPS 1	
1P160858	CALL OUT -[FLAPS 1]	0.70
AFDALT	ALTITUDE CHANGE PROC	
1P 10	MON VERBAL REPORT	0.70
2H 33	ROTATE ALT ENG KNOB	2.47



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
2H 34	READ ALT ENG VALUE ON DIGITAL INDIC	1.86
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
BYRZ61	U 24 REACHS 200 KTS	
BYRZ55	U 24 BEGINS STAR DESCENT TO 0000	
ALTCON	ACTUATE VCWS TO START DESCENT	
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 32	MON ALT/RNG SYMBOLS	10.00
4F 03	SET SPEED BRAKE LEVER TO FLT DETENT	5.26
4A 64	MANUALLY CONTROL A/C	10.00
3H 06	MON ALTIMETER	10.00
MCA120	CONTROL AIRCRAFT - M (120 SEC PROC)	
ISP120	FLIGHT INSTRUMENT SCAN - M	
4A 65	MANUALLY CONTROL A/C	120.00
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	120.00
2J 43	MON EADI	120.00
3L 03	MON VERTICAL SPEED INDIC	120.00
3A 11	MONITOR AIRSPEED INDIC	120.00
2K 15	MON EHSI DISPLAY	120.00
140023	REPORT 1000 FT TO LEVEL OFF	
1P 11	MON VERBAL REPORT	1.70
MCA105	CONTROL AIRCRAFT - B (10 SEC PROC)	
ISP105	FLIGHT INSTRUMENT SCAN - B	
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
4A 64	MANUALLY CONTROL A/C	10.00
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00
2J 42	MON EADI	10.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
MCA10S	CONTROL AIRCRAFT - B (10 SEC PROC)	
ISP10S	FLIGHT INSTRUMENT SCAN - B	
2K 14	MON EHSI DISPLAY	10.00
4A 64	MANUALLY CONTROL A/C	10.00
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
BYRZ67 ALTCUP	U 24 REACHES 8000 ACTUATE VCWS TO END DESCENT	
4A 64	MANUALLY CONTROL A/C	10.00
3H 06	MON ALTIMETER	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 32	MON ALT/RNG SYMBOLS	10.00
4F 01	SET SPD BRAKE LEVER TO DOWN	3.26
MCA30S	CONTROL AIRCRAFT - C (30 SEC PROC)	
ISP30S	FLIGHT INSTRUMENT SCAN - E	
3L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
4A 64	MANUALLY CONTROL A/C	30.00
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	30.00
2J 42	MON EADI	30.00
170007	TUNE NAV RADIOS FOR MLS APPROACH.	
BYRZ70	U 24 CROSS WATKINS < 200 KTS < 8000, RECEIVE METER/SPACING INSTRUCTIONS	
BYRZ07	RECEIVE METER/SPACE INSTRUCTIONS	



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
HDGCHG	HEADING CHANGE PROC. -CWS	
3L 82	MON VERTICAL SPEED INDIC	10.00
1PBYBZ16	MSG- UNITED 24 TURN RIGHT HEADING 350 REDUCE TO APPROACH SPEED (150KTS)	6.00
4A 20	ACT FLT CONTROL TO CHANGE HDG	10.00
2K 14	MON EHSI DISPLAY	10.00
2K 33	MON CURVED TREND VECTOR SYMBOLS	10.00
AFDSPD	AIRSPEED CHANGE PROC	
MCA055	CONTROL AIRCRAFT - A (5 SEC PROC)	
ISP059	FLIGHT INSTRUMENT SCAN - A	
2K 16	MON EHSI DISPLAY	5.00
2H 47	ROTATE CAS ENG KNOB	2.45
4A 64	MANUALLY CONTROL A/C	5.00
4B 89	ACTUATE THROTTLES TO ADJUST AIRSPEED	5.00
2J 42	MON EADI	5.00
3L 82	MON VERTICAL SPEED INDIC	5.00
3A 18	MONITOR AIRSPEED INDIC	5.00
2H 48	READ CAS ENG VALUE ON DIGITAL INDIC	1.04
1P 82	MON VERBAL REPORT	3.00

TIME IN SECONDS

220. 270. 320. 370. 420. 470. 520.

UNSHIFTED

MISSION TIMELINE
MISSION - DENVER BYRZMC APP/LN WITH HOLDING PTTN
CONFIGURATION - AFD SIMULATOR
FLIGHT PHASE - COURSE DEVIATION FOR SPACING - WATKINS TO THE GATE
CREWMEMBER - PILOT

AUG 14, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
MCA20S	CONTROL AIRCRAFT - A (20 SEC PROC)	
ISP20S	FLIGHT INSTRUMENT SCAN - B	
4B 31	MANUALLY CONTROL A/C	20.0
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	20.00
2J 43	MON EADI	20.00
3C 04	MON IVSI INDIC	20.00
3A 14	MON AIRSPEED INDIC	20.00
2K 16	MON EHSI DISPLAY	20.00
MCA05S	CONTROL AIRCRAFT - A (5 SEC PROC)	
ISP05S	FLIGHT INSTRUMENT SCAN - B	
2J 42	MON EADI	5.00
3L 02	MON VERTICAL SPEED INDIC	5.00
3A 10	MONITOR AIRSPEED INDIC	5.00
2K 16	MON EHSI DISPLAY	5.00
4B 31	MANUALLY CONTROL A/C	5.00
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	5.00
BYB263	SET FLAPS TO POS 5	
160017	SET FLAPS TO FLAPS 5	
160018	FLAP SET PROCEDURE	
MCA10S	CONTROL AIRCRAFT - B (10 SEC PROC)	
ISP10S	FLIGHT INSTRUMENT SCAN - B	
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
IP160061	CALL OUT -(FLAPS 5)	0.70

TIME IN SECONDS

400. 500. 600. 700. 800. 900. 1000. 1100.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
4A 64	MANUALLY CONTROL A/C	10.00
4B 89	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00
2J 42	MON EADI	10.00
1P 10	MON VERBAL REPORT	0.70
7F 25	MON ENG NO 1 EPR INDI	0.44
7F 50	MON ENG NO 2 EPR INDI	0.44
MCA105	CONTROL AIRCRAFT - B (10 SEC PROC)	
ISP105	FLIGHT INSTRUMENT SCAN - B	
160025	SET FLAPS TO FLAPS 15	
160010	FLAP SET PROCEDURE	
2J 42	MON EADI	10.00
3L 82	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
1P160002	CALL OUT -(FLAPS 15)	0.70
4A 64	MANUALLY CONTROL A/C	10.00
4B 89	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00
BYAZ00	RECEIVE INSTRUCTIONS TO PROCEED DIRECT TO THE GATE	
AFDALT	ALTITUDE CHANGE PROC	
2H 33	ROTATE ALT ENG KNOB	2.47
1P0YAZ10	MSG- UNITED 24, CLEARED DIRECT TO APRCH GATE, CONTACT TOWER AT GA 120.0	6.00
1P 10	MON VERBAL REPORT	0.70
2H 34	READ ALT ENG VALUE ON DIGITAL INDIC	1.06
7F 25	MON ENG NO 1 EPR INDI	0.44
7F 50	MON ENG NO 2 EPR INDI	0.44
HDGCHG	HEADING CHANGE PROC. -CWS	
3L 82	MON VERTICAL SPEED INDIC	10.00
4A 28	ACT FLT CONTROL TO CHANGE HDG	10.00
2K 14	MON EHSI DISPLAY	10.00
2K 53	MON CURVED TREND VECTOR SYMBOLS	10.00

TIME IN SECONDS

480. 530. 580. 630. 680. 730. 780.

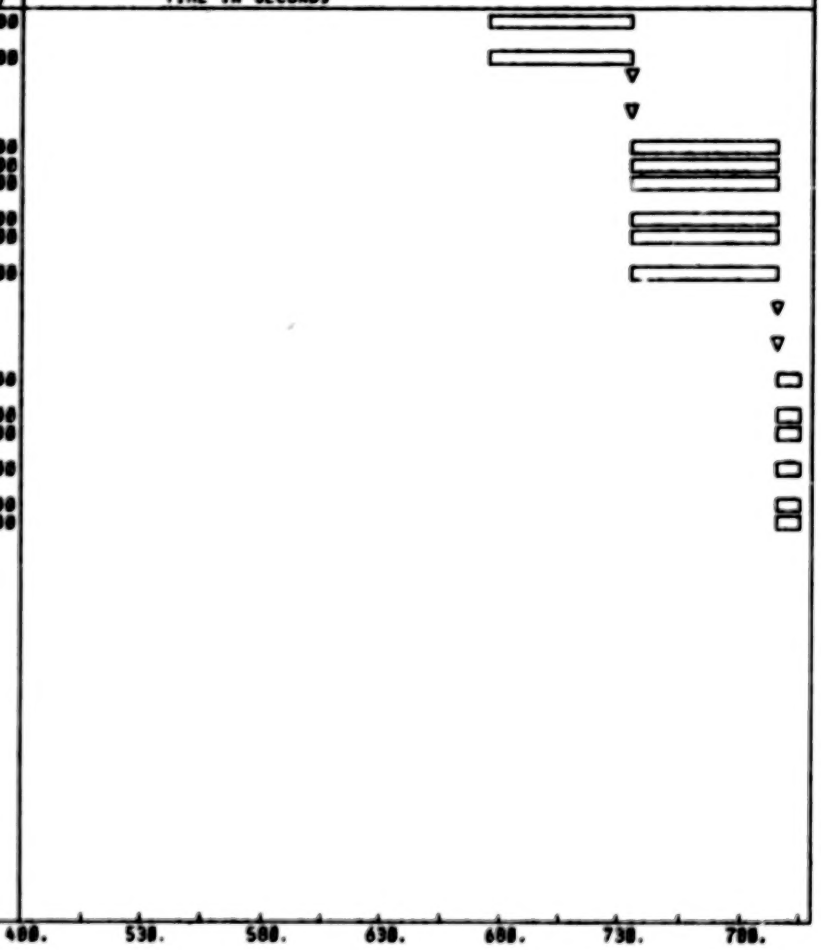
CODE		EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
ALTCDN		ACTUATE VCWS TO START DESCENT	
3A	10	MONITOR AIRSPEED INDIC	10.00
2K	32	MON ALT/RNG SYMBOLS	10.00
4F	03	SET SPEED BRAKE LEVER TO FLT DETENT	3.26
4A	64	MANUALLY CONTROL A/C	10.00
3H	06	MON ALTIMETER	10.00
3L	02	MON VERTICAL SPEED INDIC	10.00
MCA120		CONTROL AIRCRAFT - M (120 SEC PROC)	
ISP120		FLIGHT INSTRUMENT SCAN - M	
2K	15	MON EHSI DISPLAY	120.00
4A	65	MANUALLY CONTROL A/C	120.00
4B	10	ACTUATE THROTTLES TO ADJUST AIRSPEED	120.00
2J	43	MON EADI	120.00
3L	03	MON VERTICAL SPEED INDIC	120.00
3A	11	MONITOR AIRSPEED INDIC	120.00
BYR269		U 24 REACHES 6500	
ALTCUP		ACTUATE VCWS TO END DESCENT	
4A	64	MANUALLY CONTROL A/C	10.00
3H	06	MON ALTIMETER	10.00
3L	02	MON VERTICAL SPEED INDIC	10.00
3A	10	MONITOR AIRSPEED INDIC	10.00
2K	32	MON ALT/RNG SYMBOLS	10.00
4F	01	SET SPD BRAKE LEVER TO DOWN	3.26
MCA60S		CONTROL AIRCRAFT - F (60 SEC PROC)	
ISP60S		FLIGHT INSTRUMENT SCAN - F	
3L	02	MON VERTICAL SPEED INDIC	60.00
3A	10	MONITOR AIRSPEED INDIC	60.00
2K	15	MON EHSI DISPLAY	60.00
4A	65	MANUALLY CONTROL A/C	60.00

TIME IN SECONDS

400. 530. 500. 630. 600. 730. 700.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	60.00
2J 42	MON EADI	60.00
MCA605	CONTROL AIRCRAFT - F (60 SEC PROC)	
ISP605	FLIGHT INSTRUMENT SCAN - F	
2K 15	MON EWSI DISPLAY	60.00
4A 65	MANUALLY CONTROL A/C	60.00
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	60.00
2J 42	MON EADI	60.00
3L 82	MON VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
MCA105	CONTROL AIRCRAFT - B (10 SEC PROC)	
ISP165	FLIGHT INSTRUMENT SCAN - B	
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00
2J 42	MON EADI	10.00
3L 82	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EWSI DISPLAY	10.00
4A 64	MANUALLY CONTROL A/C	10.00

TIME IN SECONDS

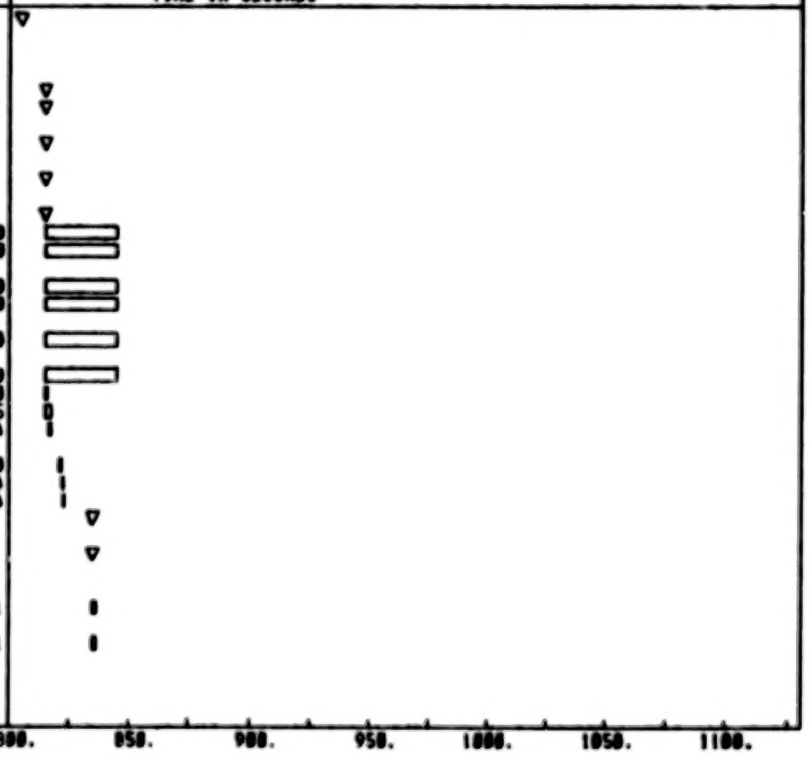


UNSHIFTED

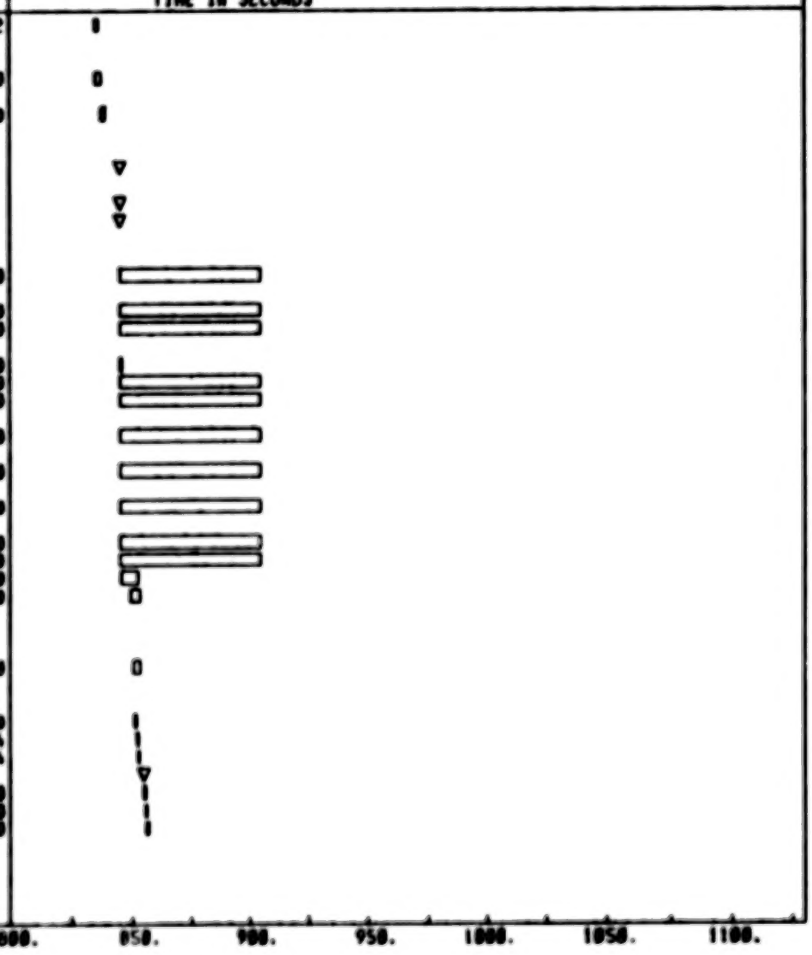
MISSION TIMELINE
MISSION - DENVER BYRZMC APP/LN WITH HOLDING PTTN
CONFIGURATION - AFD SIMULATOR
FLIGHT PHASE - FINAL APPROACH TO FROM THE GATE THRU TOUCHDOWN
CREWMEMBER - PILOT

AUG 14, 1978

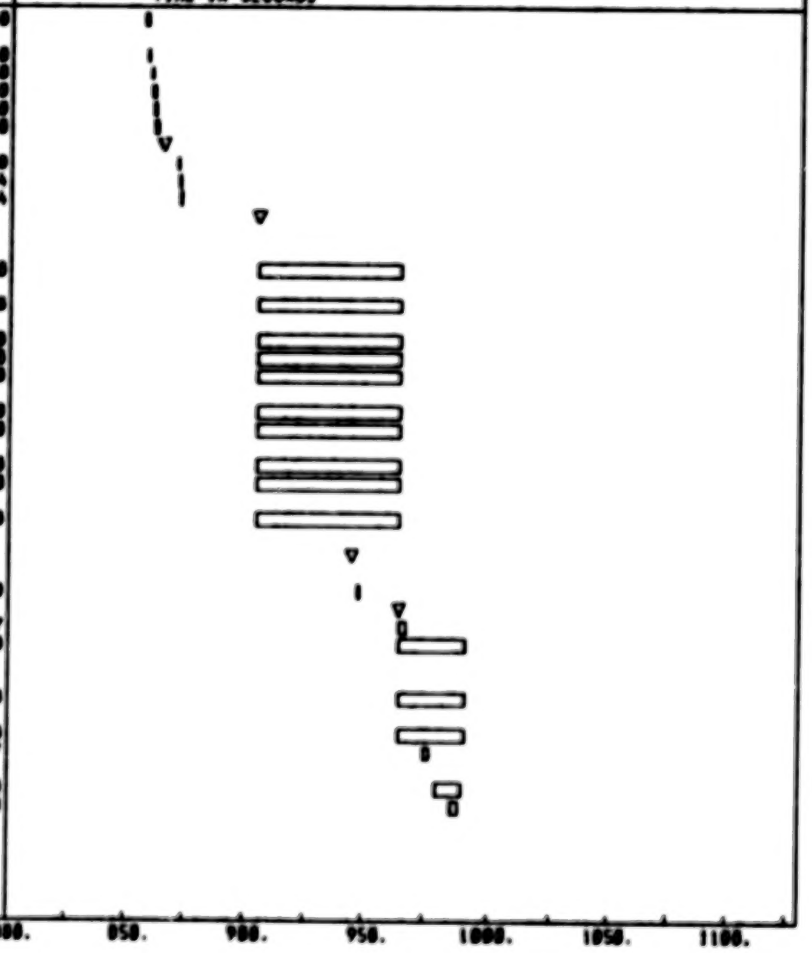
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
BYRZ50	U 24 CROSSES GATE AT 6500 AND 150 KTS, SLOWS TO 120KTS, FLAPS ON SCHED	
AFDSPD	AIRSPEED CHANGE PROC	
MCA905	CONTROL AIRCRAFT - C (30 SEC PROC)	
ISP305	FLIGHT INSTRUMENT SCAN - E	
160053	SET FLAPS TO FLAPS 25	
160018	FLAP SET PROCEDURE	
4A 64	MANUALLY CONTROL A/C	30.00
4B 18	ACTUATE THROTTLES TO ADJUST AIRSPEED	30.00
2J 42	MON EADI	30.00
3L 82	MON VERTICAL SPEED INDIC	30.00
3A 18	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EWSI DISPLAY	30.00
1P160070	CALL OUT -[FLAPS 25]	0.70
2H 47	ROTATE CAS ENG KNOB	2.45
2H 48	READ CAS ENG VALUE ON DIGITAL INDIC	1.04
1P 10	MON VERBAL REPORT	0.70
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
160059	CROSS RWY XX OUTER MARKER	
LNDCLR	CONTACT TOWER FOR FINAL LANDING CLEARANCE	
3V 86	MON LOC ANNUN LT GREEN	1.21
3V 89	MON GLIDE SLOPE ANNUN LT GREEN	1.21

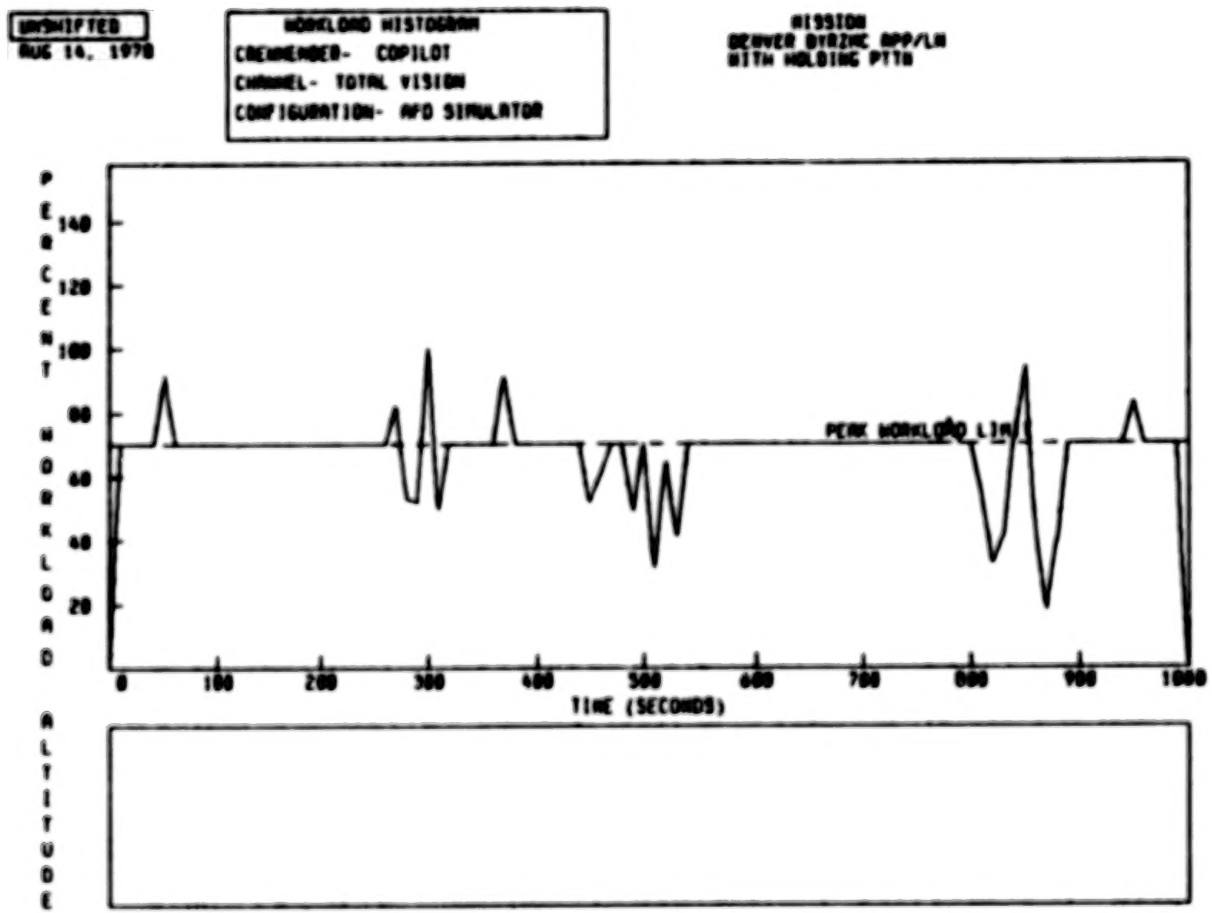


CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
9V 11	MONITOR OUTER MARKER LT ON AND AUDIBLE SIGNAL	0.72
9N 03	START ELAPSED TIME INDIC	2.10
1P160075	CALL OUT -[GEAR DOWN AND LANDING CHECK-LIST]	1.00
160057	SET FLAPS TO FLAPS 40	
160010	FLAP SET PROCEDURE	
FRLAP6	CONTROL A/C ON FINAL APPROACH - PILOT (60 SEC)	
9A 10	MONITOR AIRSPEED INDIC	60.00
9H 06	MON ALTIMETER	60.00
9L 02	MON VERTICAL SPEED INDIC	60.00
1P160073	CALL OUT -[FLAPS 40]	0.70
6A 65	MANUALLY CONTROL A/C	60.00
2J 04	MON FLT PATH ACCEL INDIC	60.00
2J 09	MON FLT PATH ANGLE INDIC	60.00
2J 38	MONITOR LOCALIZER INDICATOR	60.00
2J 39	MON GLIDE SLOPE ATT INDIC	60.00
2J 38	MON SPD ERR BAR	60.00
2J 40	MON EADI RNWY	60.00
1B 19	MON VHF-2 COMM AUDIO	7.00
1PLNDCL4	MON RADIO COMM - (UNITED 24, DENVER TOWER, ROGER, CLEAR TO LAND RUNWAY TWO SIX, WIND TWO ONE ZERO DEGREES AT ZERO NINER.)	4.00
1PLNDCL5		3.00
1P 18	MON VERBAL REPORT	0.70
7F 25	MON ENG NO 1 EPR IND	0.44
7F 38	MON ENG NO 2 EPR IND	0.44
160062	LANDING CHECKLIST	
1P 18	MON VERBAL REPORT	0.60
1P 14	MON VERBAL REPORT	0.60
1P 18	MON VERBAL REPORT	0.70



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
1P160879	CALL OUT -(ARMED - GREEN LIGHT)	1.50
1P 10	MON VERBAL REPORT	0.70
1P 14	MON VERBAL REPORT	0.40
1P 12	MON VERBAL REPORT	1.10
1P 10	MON VERBAL REPORT	1.00
1P 12	MON VERBAL REPORT	1.10
160810	FLAP SET PROCEDURE	
1P 10	MON VERBAL REPORT	0.70
7F C5	MON ENG NO 1 EPR IND	0.44
7F 58	MON ENG NO 2 EPR IND	0.44
FNLAP6	CONTROL A/C ON FINAL APPROACH - PILOT (60 SEC)	
2J 38	MONITOR LOCALIZER INDICATOR	60.00
2J 39	MON GLIDE SLOPE ATT INDIC	60.00
2J 38	MON SPD ERR BAR	60.00
2J 40	MON EADI BNNY	60.00
5A 10	MONITOR AIRSPEED INDIC	60.00
3H 86	MON ALTIMETER	60.00
3L 82	MON VERTICAL SPEED INDIC	60.00
4A 65	MANUALLY CONTROL A/C	60.00
2J 84	MON FLT PATH ACCEL INDIC	60.00
2J 89	MON FLT PATH ANGLE INDIC	60.00
160865	DESCEND THRU -DECISION HEIGTH	
1P 11	MON VERBAL REPORT	0.00
MCALND	CONTROL AIRCRAFT	
2J 25	SELECT LAND MODE	2.67
4A 79	MANUALLY CONTROL A/C THRU FLARE AND TOUCHDOWN	26.00
2J 89	MON FLT PATH ANGLE INDIC	26.00
2J 44	MON EADI BNNY	26.00
2J 24	MON 100 FT INDIC ON EADI	2.27
2J 41	MON EADI DRIFT INDIC	10.00
4B 88	SET THRUST LEVERS TO IDLE	2.50

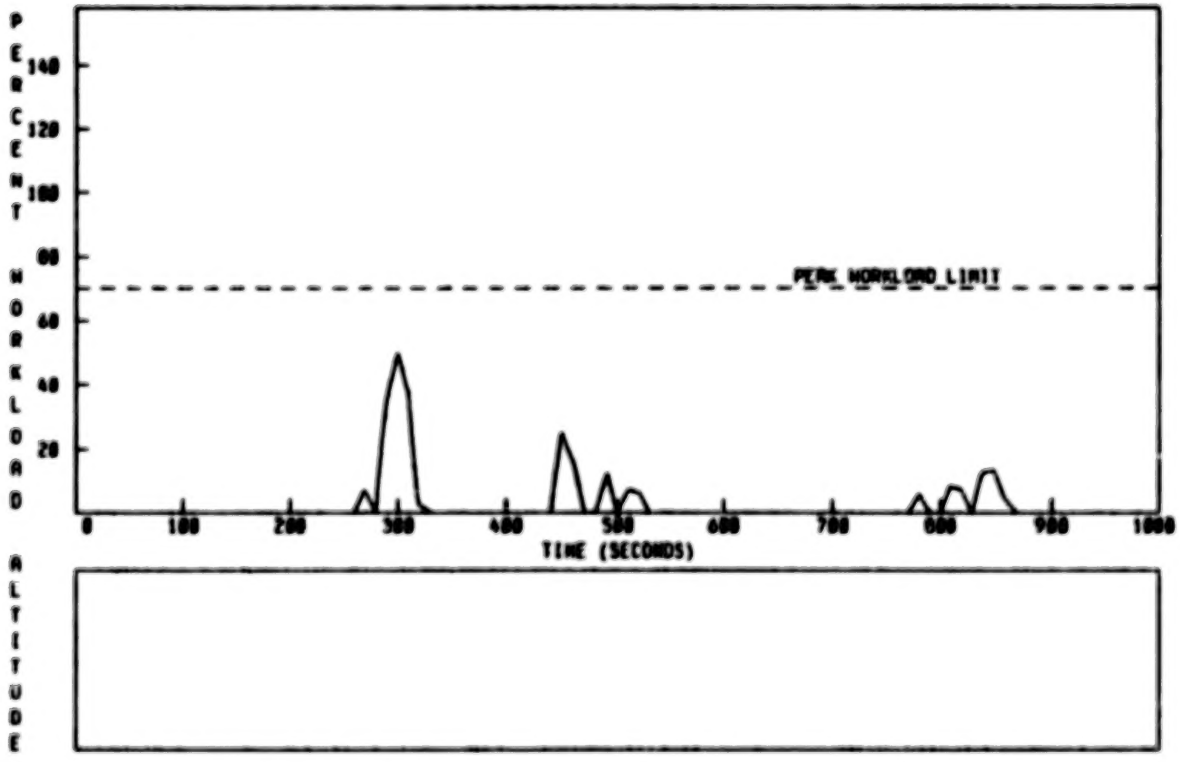


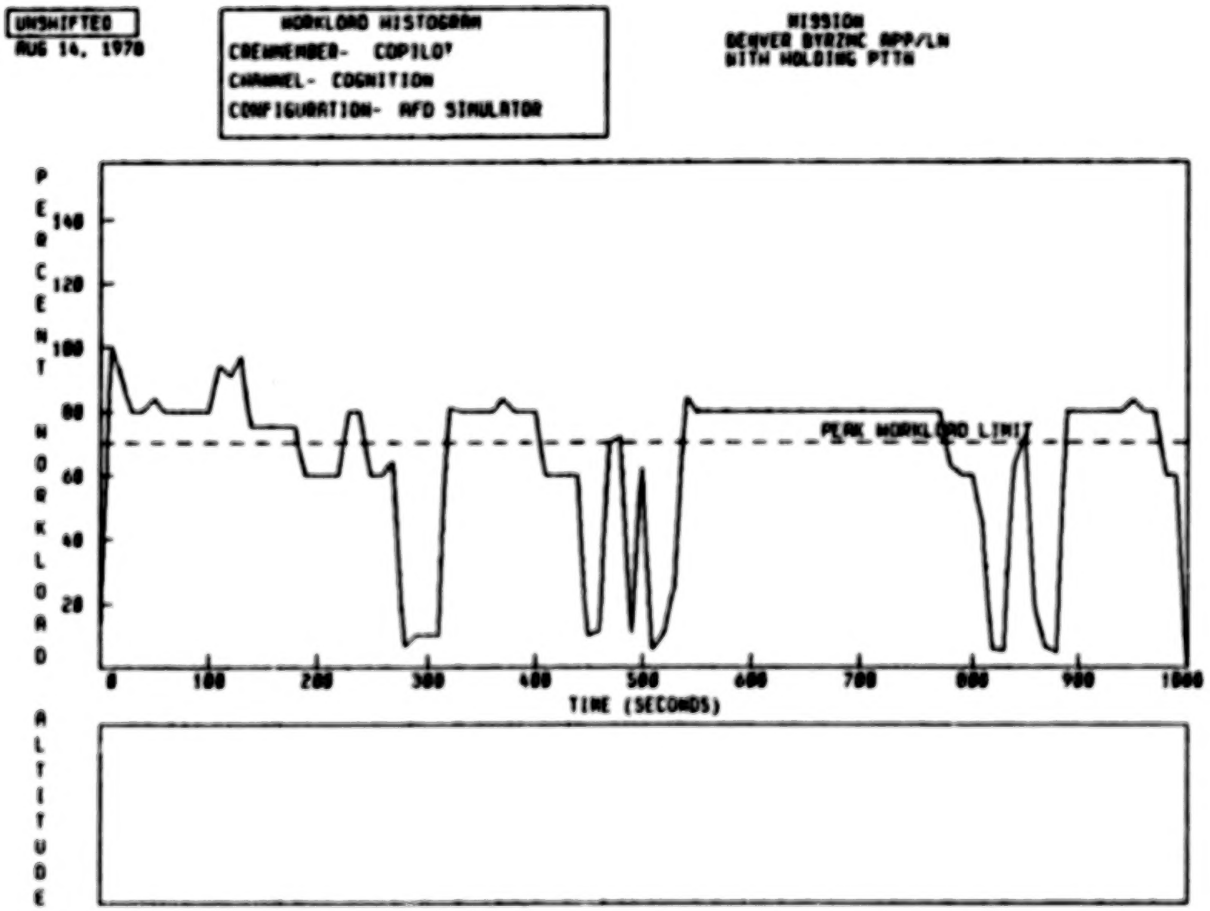

UNSHIFTED
AUG 14, 1978
WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- TOTAL VISION
CONFIGURATION- AFO SIMULATOR
MISSION
BROWER BYRZMC APP/LM
WITH HOLDING PTTN
PERCENT WORKLOAD
140
120
100
80
60
40
20
PEAK WORKLOAD LIMIT
0
100
200
300
400
500
600
700
800
900
1000
TIME (SECONDS)
ALTITUDE

UNSHIFTED
AUG 14, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- TOTAL MOTOR
CONFIGURATION- AFD SIMULATOR

MISSION
DENVER BYRZMC APP/LM
WITH HOLDING PTTN

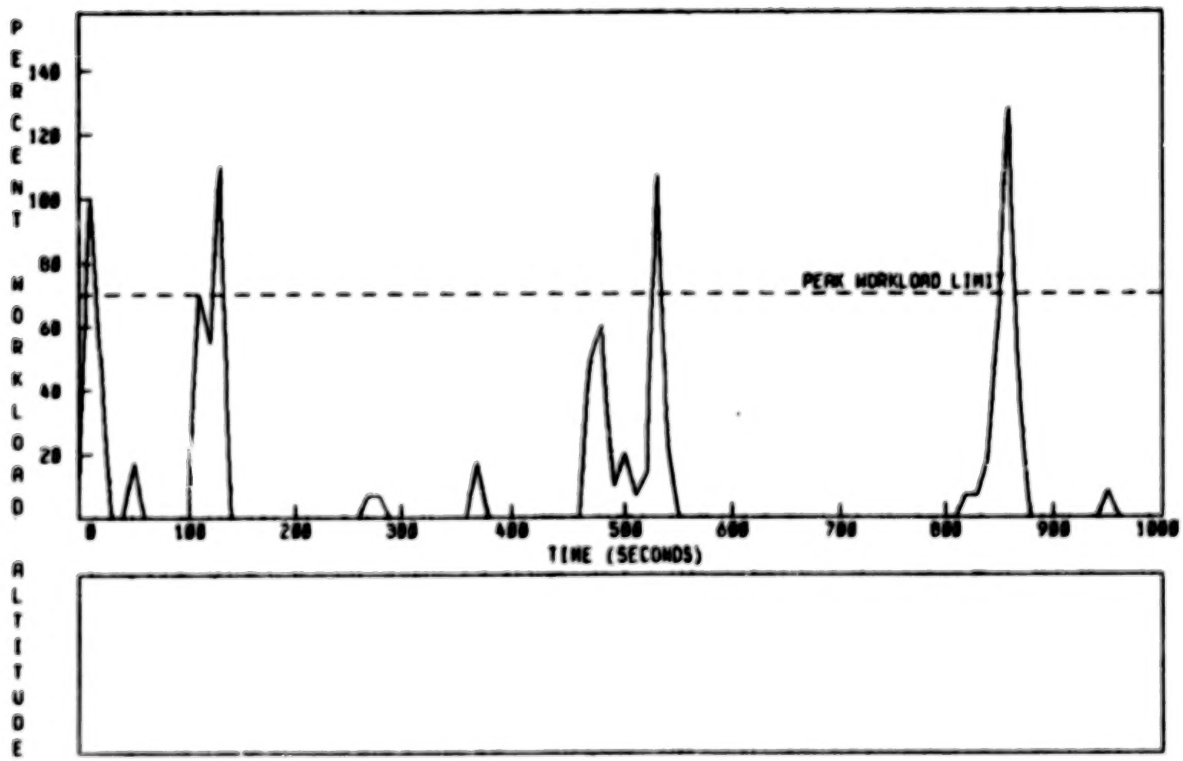



UNSHIFTED
AUG 14, 1978
WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- COGNITION
CONFIGURATION- AFD SIMULATOR
MISSION
DENVER DYNZNC APP/LN
WITH HOLDING PTTN
PERCENT WORKLOAD
140
120
100
80
60
40
20
PEAK WORKLOAD LIMIT
0
100
200
300
400
500
600
700
800
900
1000
TIME (SECONDS)
ALTITUDE

UNSHIFTED
AUG 14, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- TOTAL COMMUNICATION
CONFIGURATION- AFD SIMULATOR

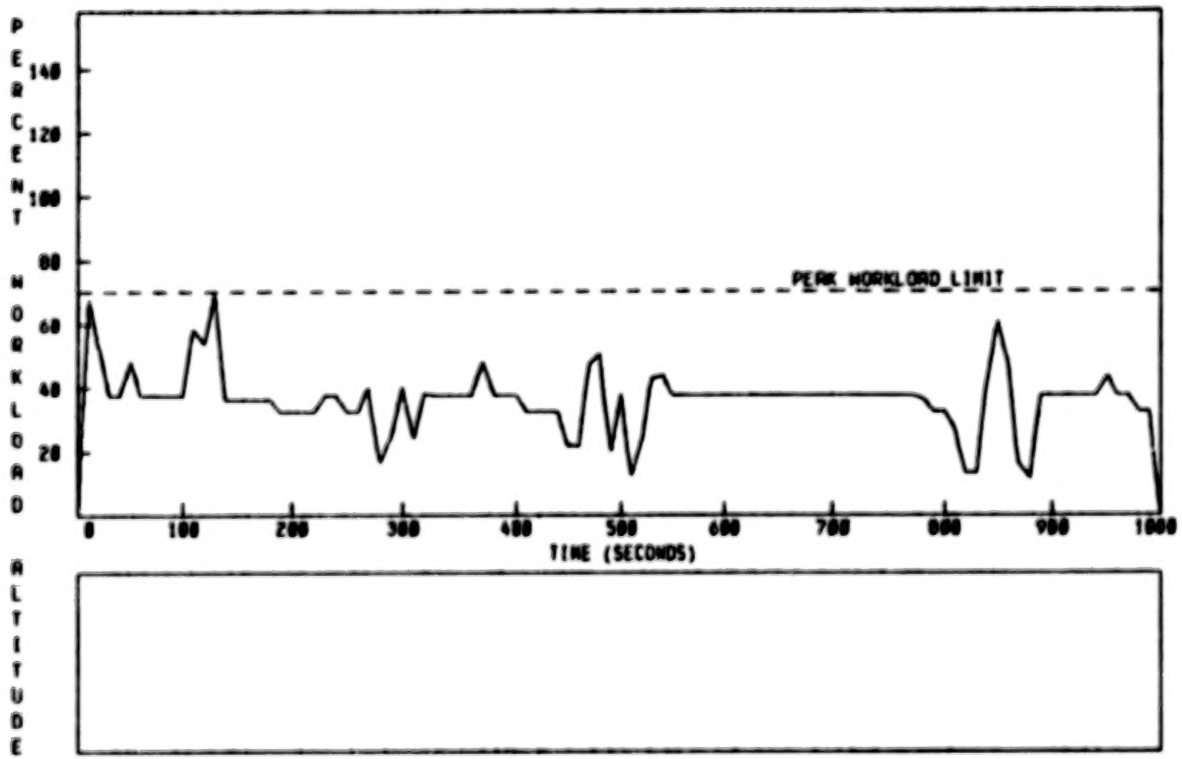
MISSION
DENVER BYRZMC APP/LN
WITH HOLDING PTTN

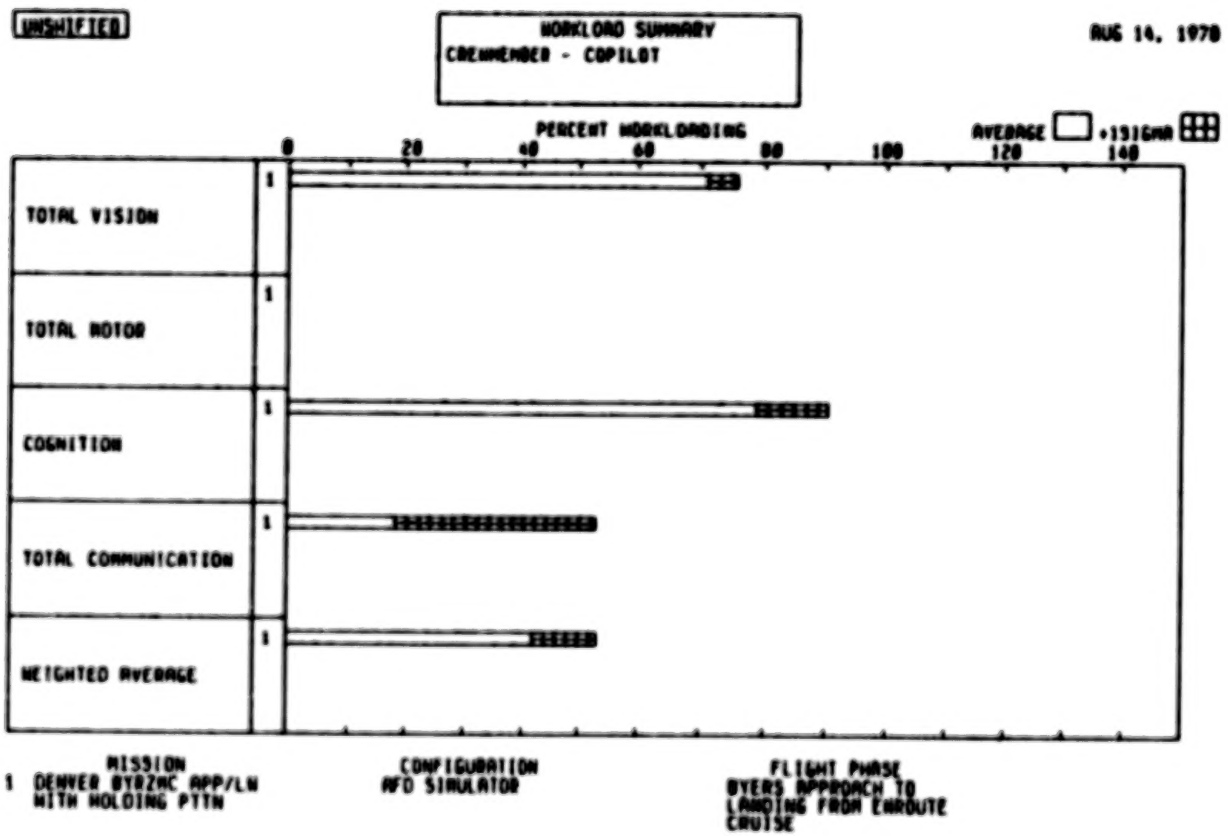


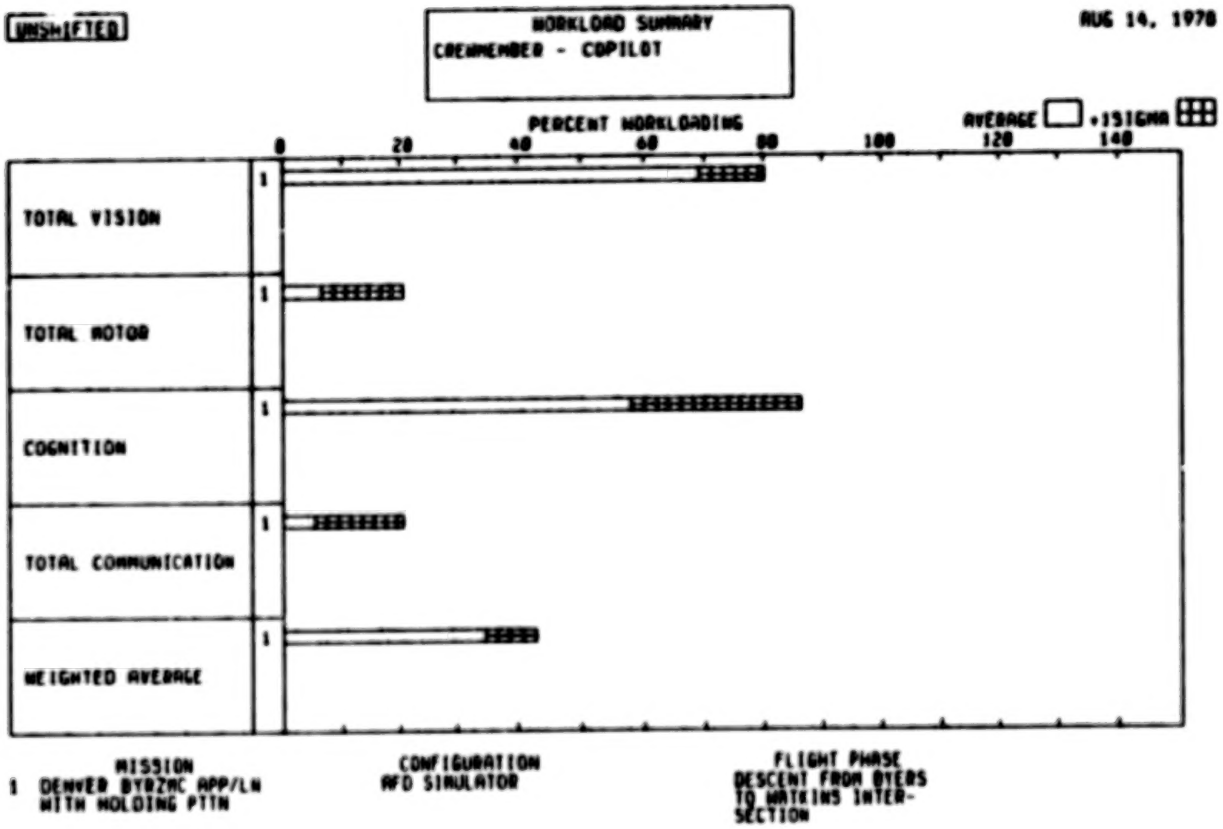
UNSHIFTED
AUG 14, 1978

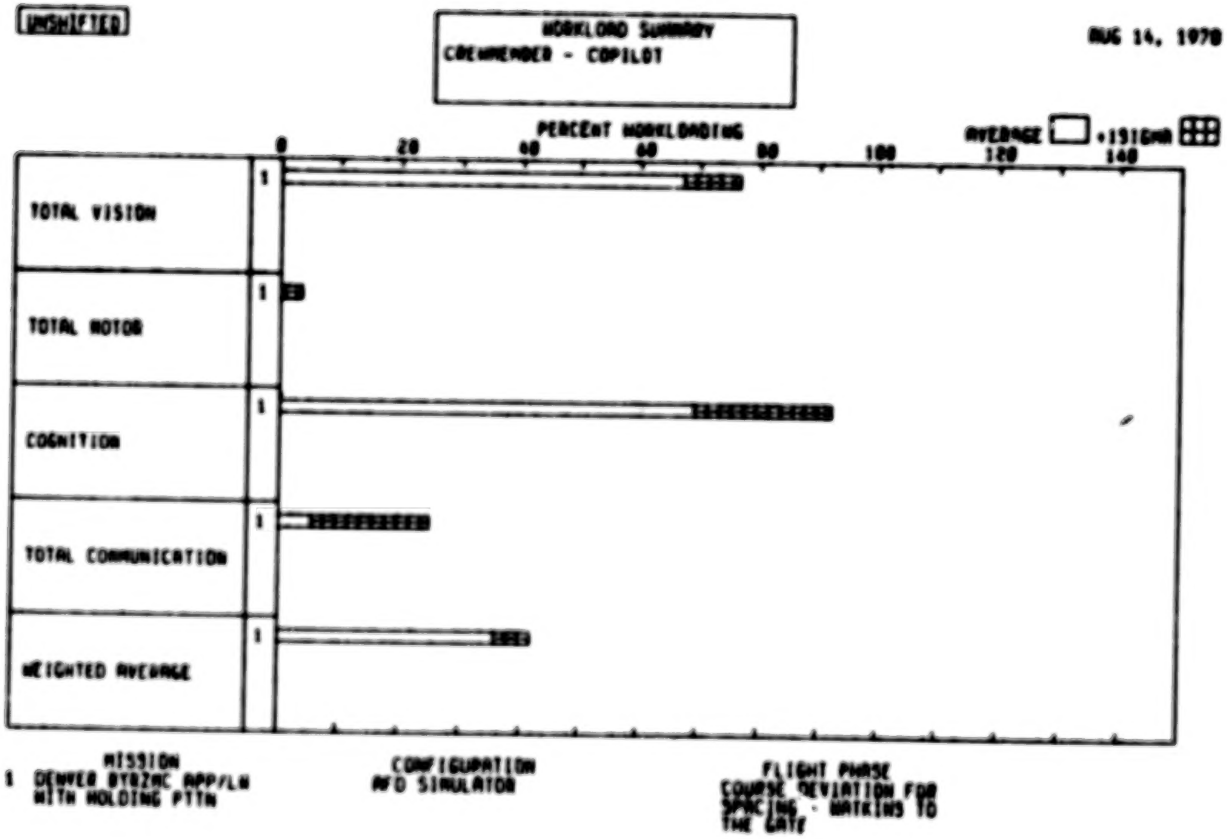
WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- WEIGHTED CHANNEL AVERAGE
CONFIGURATION- AFD SIMULATOR

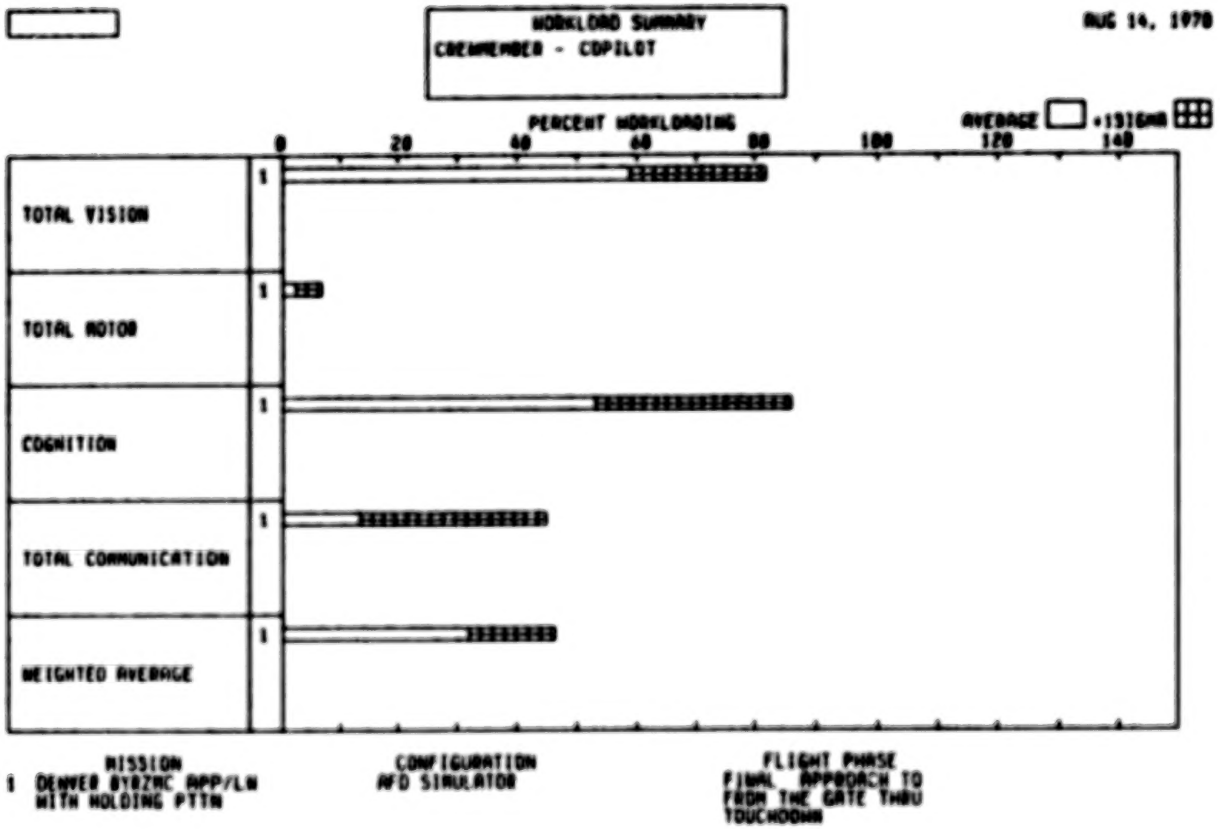
MISSION
DENVER BYRZMC APP/LN
WITH HOLDING PTTN




UNSHIFTED
WORKLOAD SUMMARY
CREWMEMBER - COPILOT
AUG 14, 1978
PERCENT WORKLOADING
0
20
40
60
80
100
120
140
AVERAGE
+1SIGMA
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 DENVER BYRZMC APP/LN
WITH HOLDING PTTN
CONFIGURATION
AFD SIMULATOR
FLIGHT PHASE
BYERS APPROACH TO
LANDING FROM ENROUTE
CRUISE


UNSHIFTED
WORKLOAD SUMMARY
CREWMEMBER - COPILOT
AUG 14, 1978
PERCENT WORKLOADING
AVERAGE
+1SIGMA
0
20
40
60
80
100
120
140
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 DENVER BYRZMC APP/LN WITH HOLDING PTTN
CONFIGURATION
AFD SIMULATOR
FLIGHT PHASE
DESCENT FROM BYERS TO WATKINS INTER-SECTION


UNSHIFTED
WORKLOAD SUMMARY
CREWMEMBER - COPILOT
AUG 14, 1970
PERCENT WORKLOADING
0
20
40
60
80
100
120
140
AVERAGE
+1SIGMA
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 DENVER BYRZMC APP/LN WITH HOLDING PTTN
CONFIGURATION
AFD SIMULATOR
FLIGHT PHASE
COURSE DEVIATION FOR SPACING - TAXIING TO THE GATE

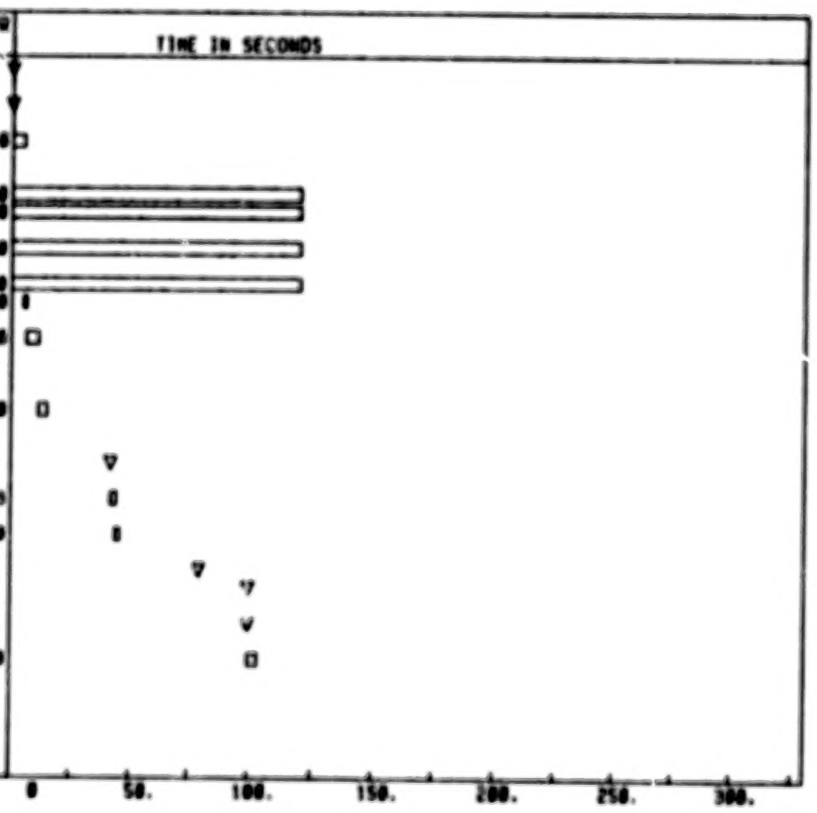

WORKLOAD SUMMARY
CREWMEMBER - COPILOT
AUG 14, 1978
PERCENT WORKLOADING
AVERAGE
+1SIGMA
0
20
40
60
80
100
120
140
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 DENVER BYRZMC APP/LN
WITH HOLDING PTTN
CONFIGURATION
AFD SIMULATOR
FLIGHT PHASE
FINAL APPROACH TO
FROM THE GATE THRU
TOUCHDOWN

UNSHIFTED

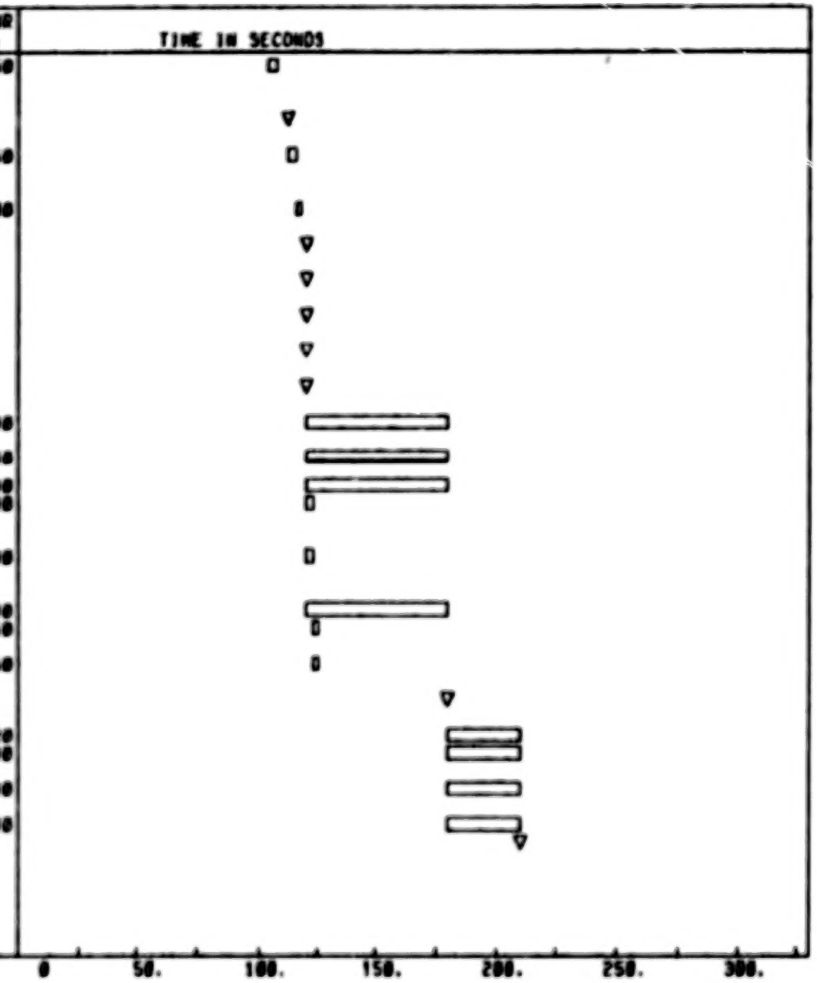
MISSION TIMELINE
MISSION - DENVER BYRZNC APP/LN WITH HOLDING PTTN
CONFIGURATION - AFD SIMULATOR
FLIGHT PHASE - BYERS APPROACH TO LANDING FROM ENROUTE CRUISE
CREWMEMBER - COPILOT

AUG 14, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
BYRZ01	START OF FLIGHT	
ISC120	SCENARIO MESSAGE FLIGHT INSTRUMENT SCAN - N	
1PBYRZ01	MON COM- UNITED 24, CONTACT DENVER APPCH ON 120.95	5.00
2J 42	MON EADI	120.00
3L 05	MON VERTICAL SPEED INDIC	120.00
3A 11	MONITOR AIRSPEED INDIC	120.00
2K 15	MON EHSI DISPLAY	120.00
1PBYRZ02	RADIO - DENVER APPCH UNITED 24	1.50
1PBYRZ03	MON COM- UNITED 24, DENVER, PROCEED TO BYERS DESCEND AND MAINTAIN 13000	5.00
1PBYRZ04	RADIO - ROGER, UNITED 24 CLEARED TO BYERS AND 13000	3.50
140023	REPORT 1000 FT TO LEVEL OFF	
3H 02	MON CDR BARO ALT INDIC	2.19
1P140045	CALL OUT -[1000 FEET TO LEVEL OFF]	1.70
BYRZ50	UAL 24 DEPARTS 13000	
BYRZ51	U 24 CLEARED FOR DES CENT	
BYRZ02	RECEIVE CLEARANCE TO 12000	
1PBYRZ05	MON CALL- UNITED 24 DESCEND AND MAINTAIN 12000.	3.50



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
1PBYRZ06	RADIO- ROGER UNITED 24 OUT OF 13000 FOR 12000.	3.50
BYRZ03	RECEIVG CLEARANCE TO 11000	
1PBYRZ07	MON COMM- UNITED 24 DESCEND AND MAINTAIN 11000.	3.50
1PBYRZ08	RADIO- ROGER UNITED 24 CLEARED TO 11000.	2.00
BYRZ52	U 24 SPEED REDUCTION TO 250 KTS	
BYRZ71	U 24 ENDS DESCENT FOR SPEED REDUCTION	
ISC605	FLIGHT INSTRUMENT SCAN - F	
BYRZ04	RECEIVG SPEED REDUCTION TO 250 KTS	
BYRZ04	RECEIVG SPEED REDUCTION TO 250 KTS	
3L 02	MON VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
ZK 15	MON EHSI DISPLAY	60.00
1PBYRZ09	MON COMM- UNITED 24 REDUCE SPEED TO 250 KNOTS.	3.00
1PBYRZ09	MON COMM- UNITED 24 REDUCE SPEED TO 250 KNOTS.	3.00
ZJ 42	MON EADI	60.00
1PBYRZ10	RADIO- UNITED 24, ROGER, SLOW TO 250	2.50
1PBYRZ10	RADIO- UNITED 24, ROGER, SLOW TO 250	2.50
ISC305	FLIGHT INSTRUMENT SCAN - E	
ZJ 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
ZK 14	MON EHSI DISPLAY	30.00
ISC105	FLIGHT INSTRUMENT SCAN - B	



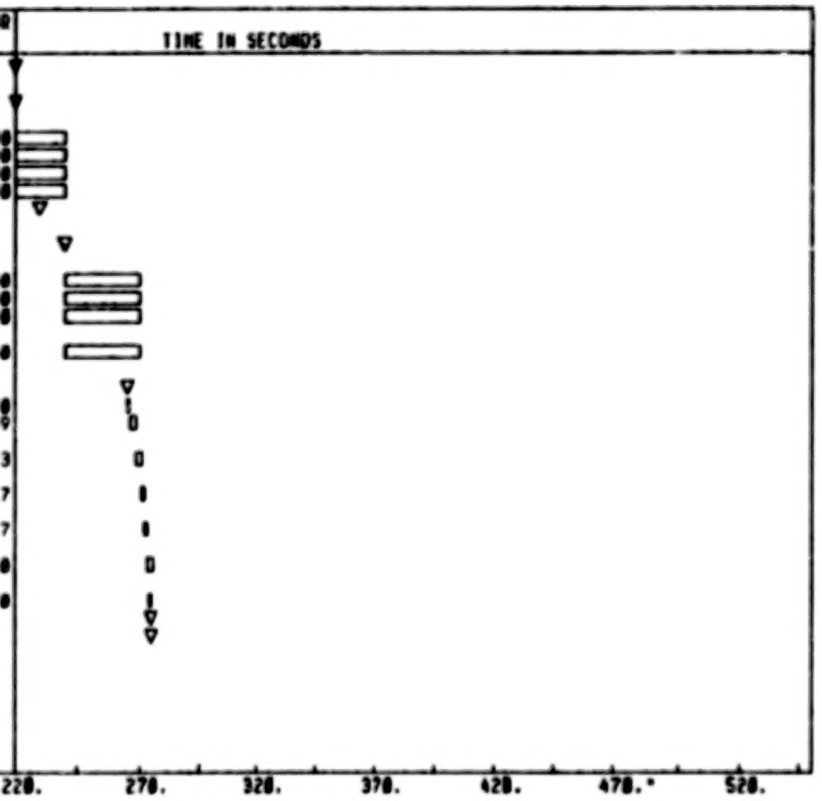
CODE		EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
3L	02	MON VERTICAL SPEED INDIC	10.00	
3A	10	MONITOR AIRSPEED INDIC	10.00	
2K	14	MON EHSI DISPLAY	10.00	
2J	42	MON EADI	10.00	

UNSHIFTED

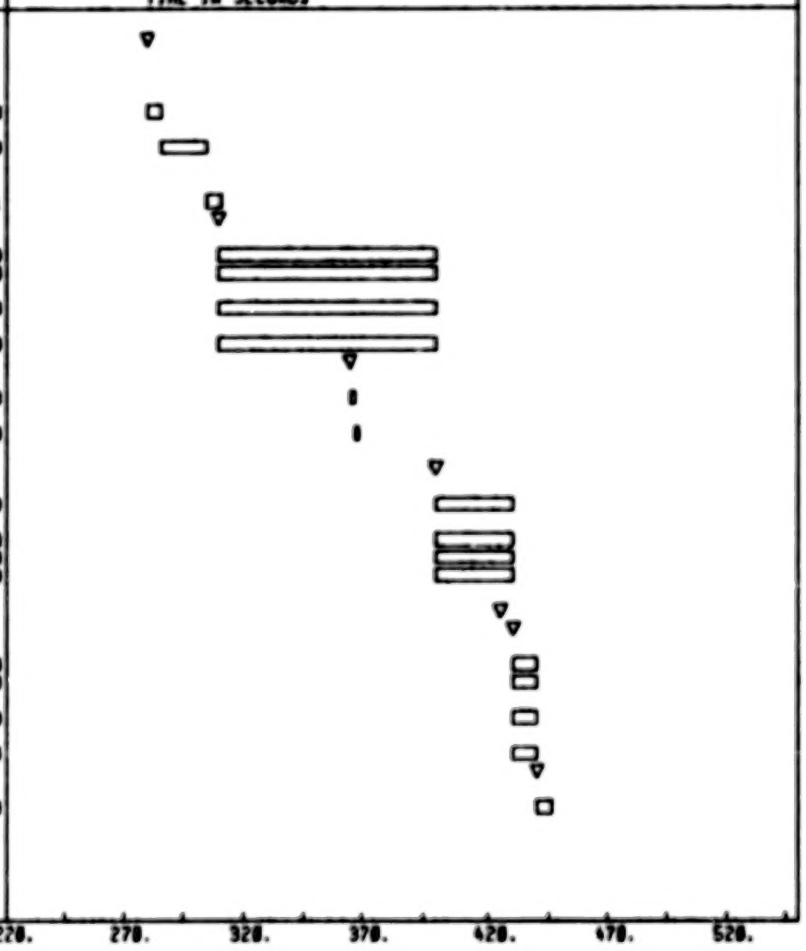
MISSION TIMELINE
MISSION - DENVER BYRZMC APP/LN WITH HOLDING PTTN
CONFIGURATION - AFD SIMULATOR
FLIGHT PHASE - DESCENT FROM BYERS TO WATKINS INTERSECTION
CREWMEMBER - COPILOT

AUG 14, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
BYRZ53	U 24 SPEED REDUCTION TO 200 KTS	
ISC205	FLIGHT INSTRUMENT SCAN - D	
2J 43	MON EADI	20.00
9L 04	MON IVSI INDIC	20.00
3A 14	MON AIRSPEED INDIC	20.00
2K 16	MON EHSI DISPLAY	20.00
BYRZ54	U 24 CROSSES BYERS INTERSECTION < 11000	
ISC305	FLIGHT INSTRUMENT SCAN - E	
2K 14	MON EHSI DISPLAY	30.00
2J 42	MON EADI	30.00
9L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
160811	SET FLAPS TO FLAPS 1	
1P 10	MON VERBAL REPORT	0.70
4E 07	SET FLAP CONT LEVER TO FLAPS 1	2.69
4E 15	MONITOR FLAP POSITION INDICATOR	2.23
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50
1P160858	CALL OUT -[FLAPS 1]	0.70
BYRZ61	U 24 REACHS 200 KTS	
BYRZ55	U 24 BEGINS STAR DESCENT TO 8000	



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
RVUDAT	CREWMEMBER REVIEWS CHARTS/APPROACH DATA FOR NAV INFORMATIN THRU TOUCHDOWN	
00 06	RETREIVE CHARTS APPROACH PLATES	6.00
00160003	REVIEW CHARTS/PLATES TO DETERMINE NAVAID APP FEEDS	19.00
00 07	STOW CHARTS	5.91
ISC905	FLIGHT INSTRUMENT SCAN - G	
2J 43	MON EADI	90.00
3L 09	MON VERTICAL SPEED INDIC	90.00
3A 11	MONITOR AIRSPEED INDIC	90.00
2K 15	MON EHSI DISPLAY	90.00
140023	REPORT 1000 FT TO LEVEL OFF	
3H 02	MON CORR BARO ALT INDIC	2.13
1P140045	CALL OUT -(1000 FEET TO LEVEL OFF)	1.70
ISC305	FLIGHT INSTRUMENT SCAN - E	
3A 16	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
2J 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
0YR767	U 24 REACHES 8000	
ISC109	FLIGHT INSTRUMENT SCAN - B	
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
170007	TUNE NAV RADIOS FOR MLS APPROACH.	
00 06	RETREIVE CHARTS APPROACH PLATES	6.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
00160003	REVIEW CHARTS/PLATES TO DETERMINE NAVAID APP FREQS	5.00
SU 01	MON NAV-1 FREQ INDIC	5.00
SU 02	SET NAV-1 FREQ - WHOLE NO.S	3.00
SU 03	SET NAV-1 FREQ - FRACTIONS	2.00
ISC105	FLIGHT INSTRUMENT SCAN - 0	
9A 10	MONITOR AIRSPEED INDIC	10.00
ZK 14	MON EHSI DISPLAY	10.00
ZJ 42	MON EADI	10.00
9L 02	MON VERTICAL SPEED INDIC	10.00
BYRZ70	U 24 CROSS WATKINS < 200 KTS < 8000, RECEIVE METER/SPACING INSTRUCTIONS	
BYRZ07	RECEIVE METER/SPACE INSTRUCTIONS	
1PBYRZ16	MSG- UNITED 24 TURN RIGHT HEADING 350 REDUCE TO APPROACH SPEED (150KTS)	6.00
ISC105	FLIGHT INSTRUMENT SCAN - 0	
9L 02	MON VERTICAL SPEED INDIC	10.00
9A 10	MONITOR AIRSPEED INDIC	10.00
ZK 14	MON EHSI DISPLAY	10.00
ZJ 42	MON EADI	10.00
1PBYRZ17	RADIO- UNITED 24, ROGER, RIGHT TO 350 SLOW TO APPROACH SPD	5.00
SV 01	MON NAV-2 FREQ INDIC	4.91
SV 02	SET NAV-2 FREQ - WHOLE NO.S	2.93
SV 03	SET NAV-2 FREQ - FRACTIONS	1.98
1P170026	CALL OUT -(RNWY MLS FREQ ON NAV 1 AND NAV 2)	3.00

TIME IN SECONDS

220. 270. 320. 370. 420. 470. 520.

UNSHIFTED

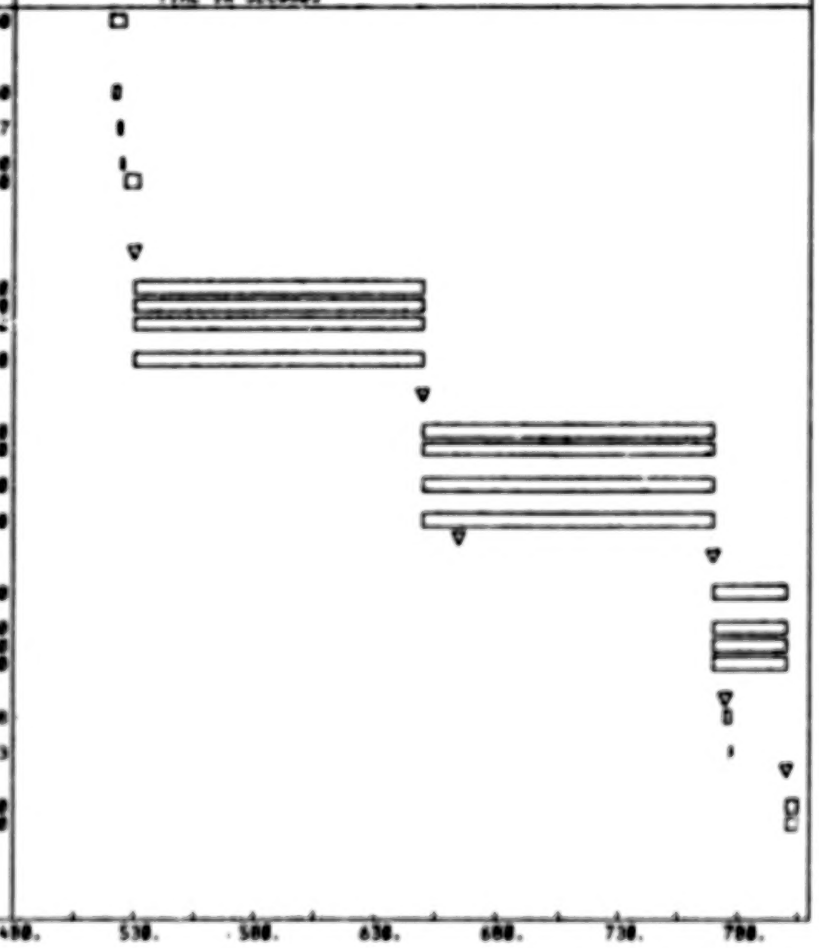
MISSION TIMELINE
MISSION - DENVER BYR2MC APP/LN
WITH HOLDING PTTN
CONFIGURATION - AFD SIMULATOR
FLIGHT PHASE - COURSE DEVIATION FOR
SPACING - WATKINS TO
THE GATE
CREWMEMBER - COPILOT

AUG 14, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
ISC105	FLIGHT INSTRUMENT SCAN - B		
2J 42	MON EADI	10.00	
3L 02	MON VERTICAL SPEED INDIC	10.00	
3A 10	MONITOR AIRSPEED INDIC	10.00	
2K 14	MON EHSI DISPLAY	10.00	
BYR263	SET FLAPS TO POS 5		
160017	SET FLAPS TO FLAPS 5		
160018	FLAP SET PROCEDURE		
1P 10	MON VERBAL REPORT	0.70	
4E 09	SET FLAP CONT LEVER TO FLAPS 5	2.69	
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17	
4E 15	MONITOR FLAP POSITION INDICATOR	2.23	
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50	
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17	
1P160061	CALL OUT -(FLAPS 5)	0.70	
160025	SET FLAPS TO FLAPS 15		
160018	FLAP SET PROCEDURE		
1P 10	MON VERBAL REPORT	0.70	
4E 11	SET FLAP CONT LEVER TO FLAPS 15	2.46	
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17	
4E 15	MONITOR FLAP POSITION INDICATOR	2.23	
BYR208	RECEIVE INSTRUCTIONS TO PROCEED DIRECT TO THE GATE		

480. 530. 580. 630. 680. 730. 780.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
1PBYBZ10	MSG- UNITED 24, CLEARED DIRECT TO APPRCH GATE, CONTACT TOWER AT DA 120.0	6.00
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17
1P160062	CALL OUT -(FLAPS 15)	0.70
1PBYBZ19	RADIO- BOARD UNITED 24 CLEARED DIRECT TO THE GATE, TOWER AT DA 120.0	6.00
ISC120	FLIGHT INSTRUMENT SCAN - A	
2K 15	MON EHSI DISPLAY	120.00
2J 43	MON EADI	120.00
3L 03	MON VERTICAL SPEED INDIC	120.00
3A 11	MONITOR AIRSPEED INDIC	120.00
ISC120	FLIGHT INSTRUMENT SCAN - A	
2J 43	MON EADI	120.00
3L 03	MON VERTICAL SPEED INDIC	120.00
3A 11	MONITOR AIRSPEED INDIC	120.00
2K 15	MON EHSI DISPLAY	120.00
BYBZ60	U 24 REACHES 6500	
ISC305	FLIGHT INSTRUMENT SCAN - E	
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
2J 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
180045	ANNUNCIATOR RECALL	
7A 20	ACTUATE ANNUN PNL RECALL SW	2.20
7A 36	MON ALL ANNUN LTS	0.53
ISC055	FLIGHT INSTRUMENT SCAN - A	
2J 42	MON EADI	5.00
3L 02	MON VERTICAL SPEED INDIC	5.00



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	Total Vision	4 1/B1	29 1/E9
	Total Motor	5 1/B3	30 1/E11
	Cognition	6 1/B5	31 1/E13
	Total Communication	7 1/B7	1/F1
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	Cruise	9 1/B11	34 1/F5
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2.2	Byers 2D Approach		
	Workload Histogram (WLH)		
	Total Vision	51 2/B1	75 2/E7
	Total Motor	52 2/B3	76 2/E9
	Cognition	53 2/B5	77 2/E11
	Total Communications	54 2/B7	78 2/E13
	Weighted Channel Average	55 2/B9	79 2/F1

SECTION NO.	TITLE	PAGE Pilot		PAGE Copilot	
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	Cruise	60	2/C5	84	2/F11
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	Final Approach/Landing	71	2/D13	94	3/A7
2.3	Longmont Manual Approach				
	Workload Histogram (WLH)				
	Total Vision	98	3/B1	128	3/F5
	Total Motor	99	3/B3	129	3/F7
	Cognition	100	3/B5	130	3/F9
	Total Communications	101	3/B7	131	3/F11
	Weighted Channel Average	102	3/B9	132	3/F13
	Workload Summaries (WLS)				
	Cruise	103	3/B11	133	3/G1
	Holding Pattern	104	3/B13	134	3/G3
	Descent to 11,000	105	3/C1	135	3/G5
	Descent to 8000	106	3/C3	136	3/G7
	Metering and Spacing	107	3/C5	137	3/G9
	Final Approach/Landing	108	3/C7	138	3/G11
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	Cruise	109	3/C9	139	3/G13
	Holding Pattern	114	3/D5	145	4/B1
	Descent to 11,000	116	3/D9	148	4/B7

SECTION NO.	TITLE	PAGE Pilot	PAGE Copilot
	Descent to 8000	1183/D13	151 4/B13
	Metering and Spacing	1213/E5	155 4/C7
	Final Approach/Landing	1243/E11	160 4/D3
2.4	Longmont 2D Approach		
	Workload Histogram (WLH)		
	Total Vision	1654/D13	195 5/B7
	Total Motor	1664/E1	196 5/B9
	Cognition	1674/E3	197 5/B11
	Total Communications	1684/E5	198 5/B13
	Weighted Channel Average	1694/E7	199 5/C1
	Workload Summaries (WLS)		
	Cruise	1704/E9	200 5/C3
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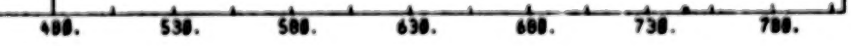
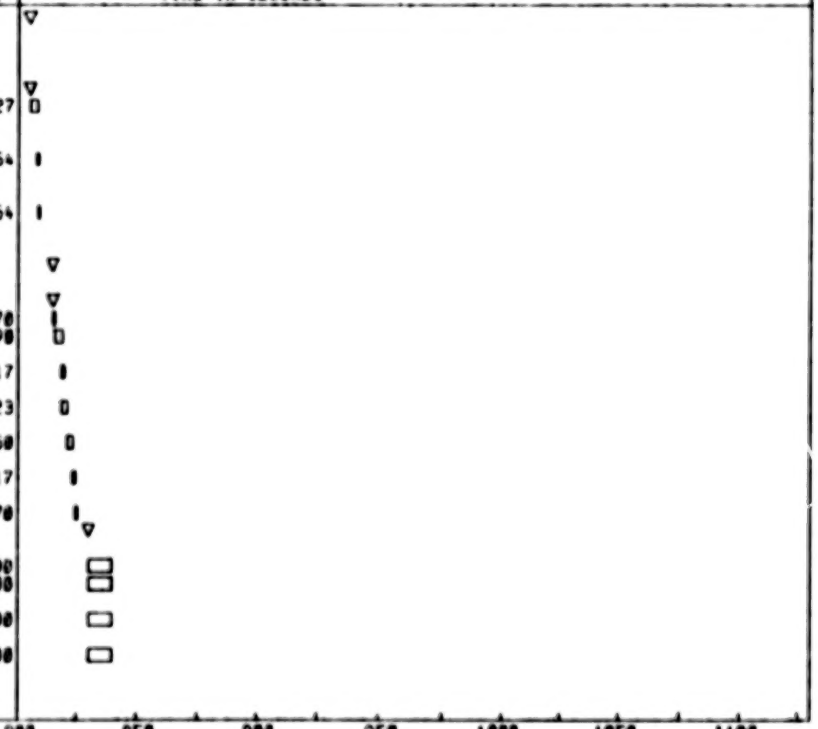
CODE		EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
3A	10	MONITOR AIRSPEED INDIC	5.00	
2K	16	MON EHSI DISPLAY	5.00	



MISSION TIMELINE
MISSION - DENVER BYRZMC APP/LN
WITH HOLDING PTTN
CONFIGURATION - AFD SIMULATOR
FLIGHT PHASE - FINAL APPROACH TO
FROM THE GATE THRU
TOUCHDOWN
CREWMEMBER - COPILOT

AUG 14, 1978

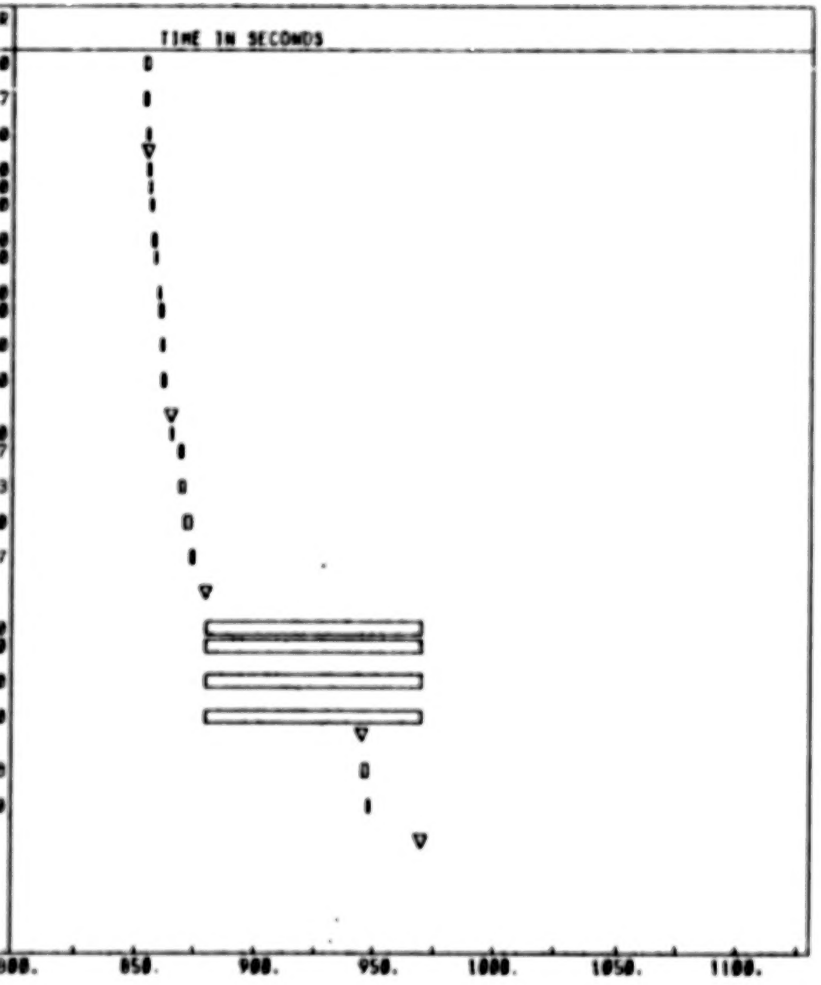
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
BYRZ50	U 24 CROSSES GATE AT 6500 AND 150 KTS, SLOWS TO 120KTS, FLAPS ON SCHED	
160060	EXTEND LANDING GEAR	
4D 03	SET LANDING GEAR LEVER TO DOWN POSITION	3.27
4D 05	MONITOR NOSE GEAR DOWN AND LOCKED LT ON	0.54
4D 09	MONITOR LEFT/RI GEAR DOWN AND LOCKED LT ON	0.54
160053	SET FLAPS TO FLAPS 25	
160018	FLAP SET PROCEDURE	
1P 10	MON VERBAL REPORT	0.70
4E 12	SET FLAP CONT LEVER TO FLAPS 25	2.90
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17
4E 15	MONITOR FLAP POSITION INDICATOR	2.23
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17
1P160070	CALL OUT -(FLAPS 25)	0.70
ISC105	FLIGHT INSTRUMENT SCAN - B	
2J 42	MON EADI	10.00
9L 02	MON VERTICAL SPEED INDIC	10.00
9A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00



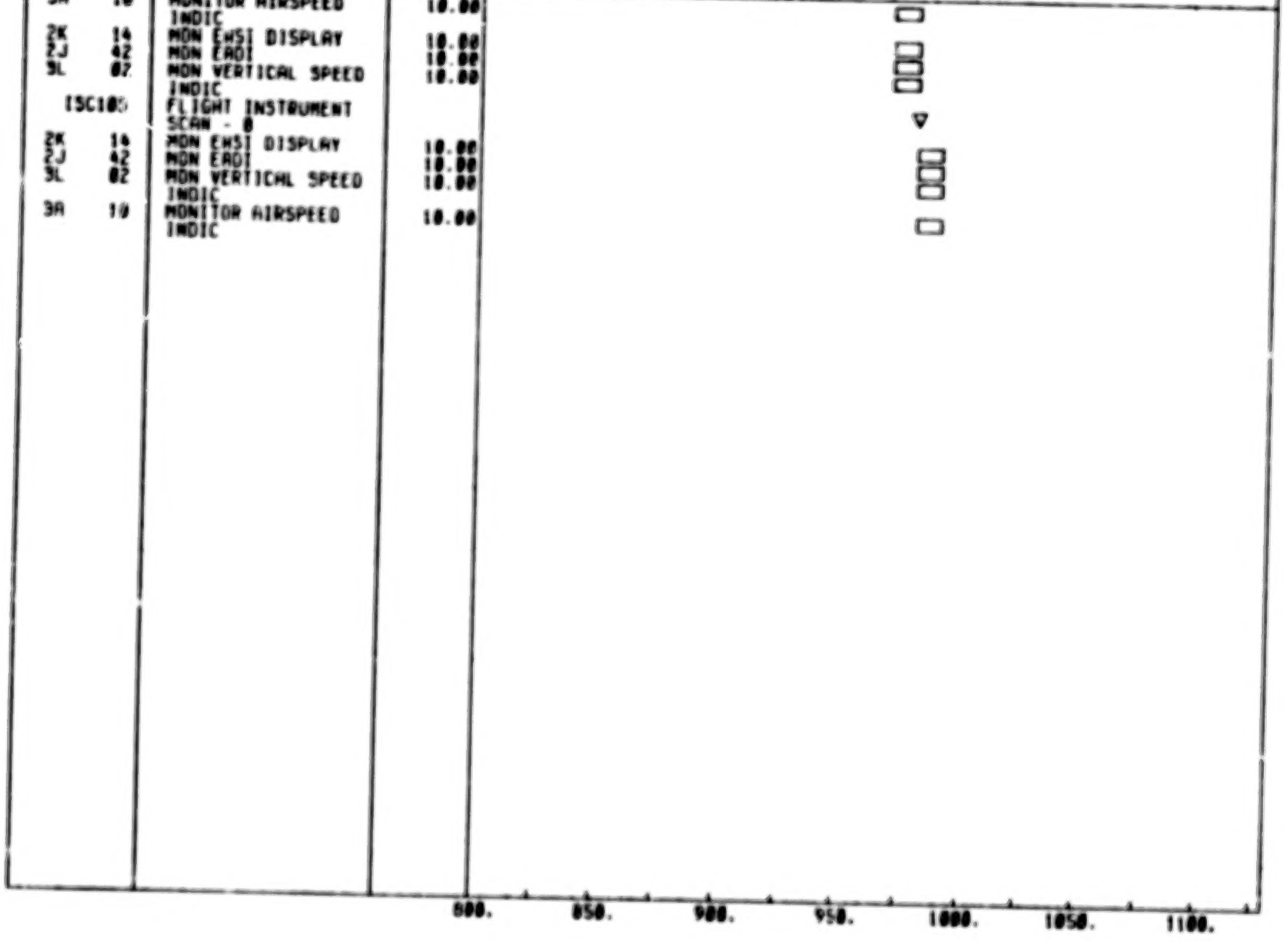
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
160859	CROSS RWY XX OUTER MARKER		▽
LNDCLR	CONTACT TOWER FOR FINAL LANDING CLEARANCE		▽
1B 05	SET VHF-2 COMM TFR SW TO LEFT	2.39	
1P 13	MON VERBAL REPORT	1.00	
1B 17	COMM VIA VHF-2	5.00	
1B 25	ACT PUSH-TO-TALK SW ON CONTROL HANDGRIP	5.00	
ISC105	FLIGHT INSTRUMENT SCAN - 8		▽
2K 14	MON EHSI DISPLAY	10.00	
2J 42	MON EADI	10.00	
9L 82	MON VERTICAL SPEED INDIC	10.00	
3A 10	MONITOR AIRSPEED INDIC	10.00	
1PLNDCL2	RADIO COMM-(DENVER TOWER, THIS IS U 24 OVER THE GATE INBOUND FOR LNDNG	4.00	
160857	SET FLAPS TO FLAPS 40		▽
160818	FLAP SET PROCEDURE		▽
1P 10	MON VERBAL REPORT	0.70	
1PLNDCL3	ZERO EIGHT, OVER)	1.00	
1B 19	MON VHF-2 COMM AUDIO	7.00	
4E 14	SET FLAP CONT LEVER TO FLAPS 40	2.92	
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17	
4E 15	MONITOR FLAP POSITION INDICATOR	2.23	
1PLNDCL4	MON RADIO COMM - (UNITED 24, DENVER TOWER, ROGER, CLEAR TO LAND RUNWAY TWO SIX , WIND TWO ONE ZERO DEGREES AT ZERO NINER.)	4.00	
1PLNDCL5		9.00	
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50	
1B 15	COMM VIA VHF-2	1.70	
1PLNDCL1	RADIO COMM - (U24, ROGER]	1.78	

800. 850. 900. 950. 1000. 1050. 1100.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
1B 29	ACTUATE COMM 2 PUSH-TO-TALK SW	1.70
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17
1P166073	CALL OUT -[FLAPS 40]	0.70
160062	LANDING CHECKLIST	
1P150076	CALL OUT -[RECALL]	0.60
1P160077	CALL OUT -[CHECKED]	0.40
1P160078	CALL OUT -[SPEED BRAKES]	0.70
1P 02	MON VERBAL REPORT	1.30
1P160080	CALL OUT -[LANDING GEAR]	0.70
1P160082	CALL OUT -[FLAPS]	0.40
1P160083	CALL OUT -[FORTY, GREEN LIGHT]	1.10
1P160081	CALL OUT -[DOWN, THREE GREEN]	1.00
1P160084	CALL OUT -[CHECKLIST COMPLETE]	1.10
160018	FLAP SET PROCEDURE	
1P 10	MON VERBAL REPORT	0.70
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17
4E 15	MONITOR FLAP POSITION INDICATOR	2.23
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17
ISC905	FLIGHT INSTRUMENT SCAN - G	
2J 43	MON EADI	90.00
3L 03	MON VERTICAL SPEED INDIC	90.00
3A 11	MONITOR AIRSPEED INDIC	90.00
2K 15	MON EHSI DISPLAY	90.00
160065	DESCEND THRU -DECISION HEIGTH	
3R 12	MON DECISION HGT LT ON PDI	2.50
1P160086	CALL OUT -[DECISION HEIGHT]	0.80
ISC105	FLIGHT INSTRUMENT SCAN - B	



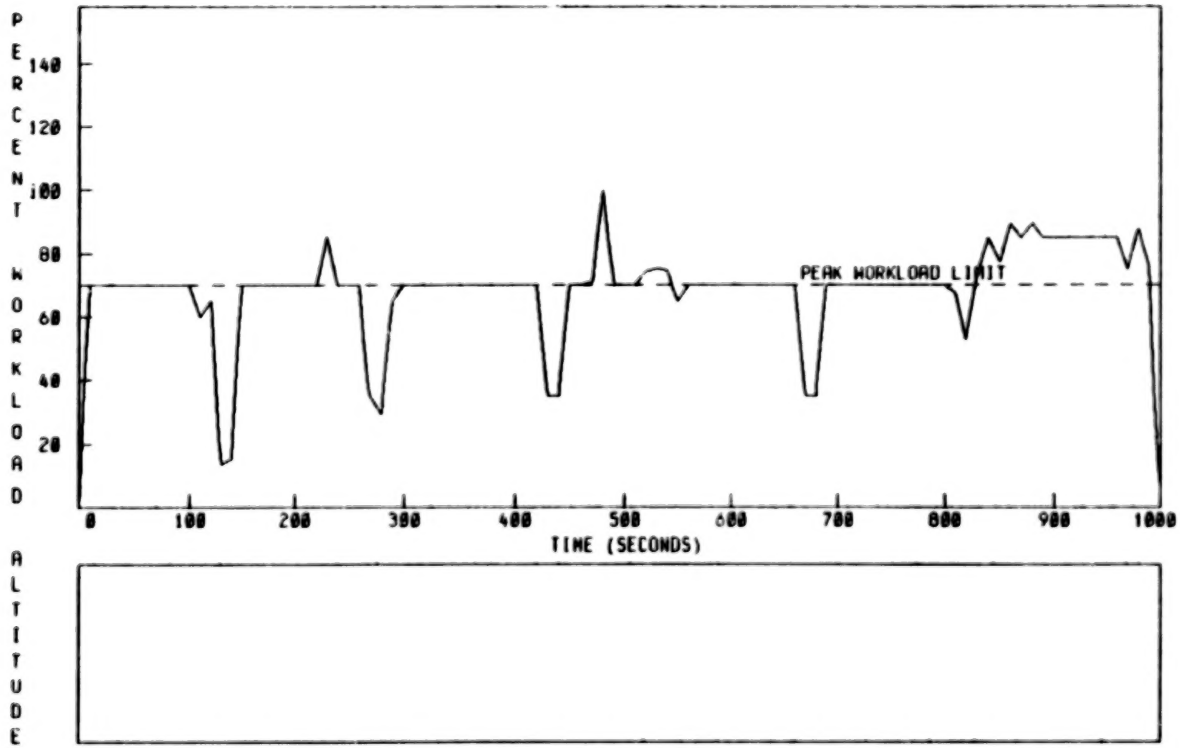
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
[SC10]	FLIGHT INSTRUMENT SCAN - 0	
2K 14	MON EHSI DISPLAY	10.00
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00



UNSHIFTED
AUG 14, 1976

WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- TOTAL VISION
CONFIGURATION- NASA 515 - AFD

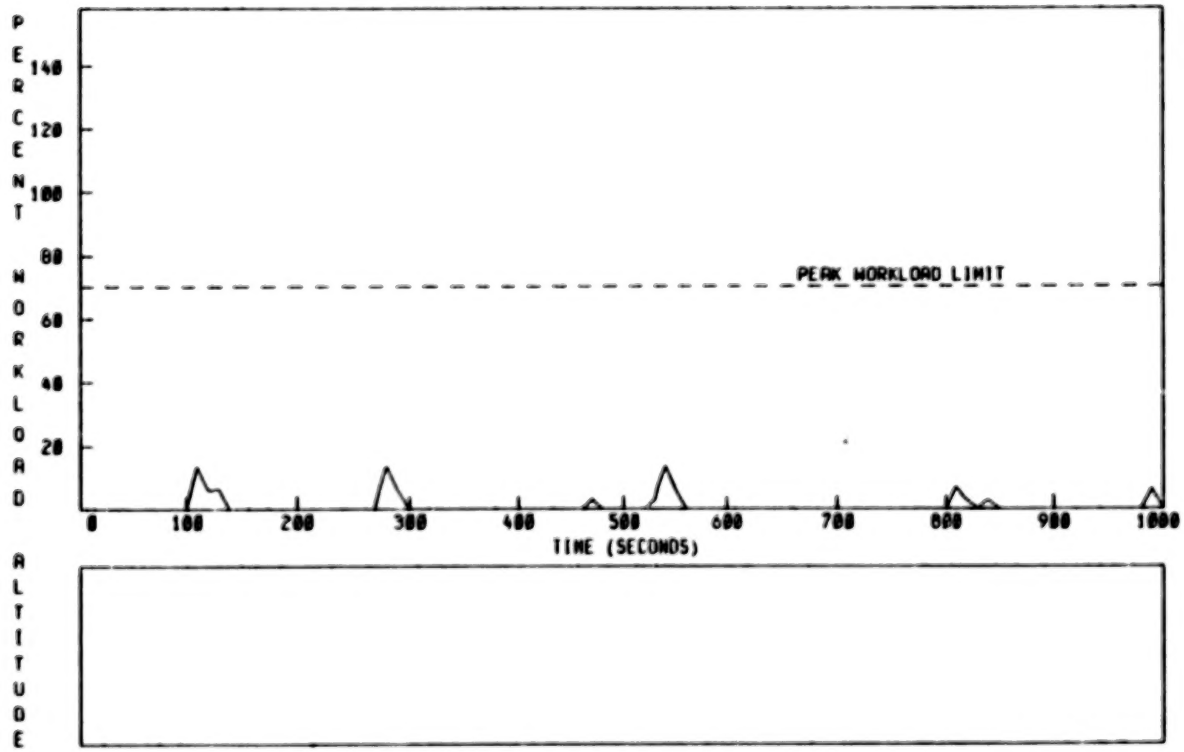
MISSION
BYERS APP SCENARIO



UNSHIFTED
AUG 14, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- TOTAL MOTOR
CONFIGURATION- NASA 515 - AFD

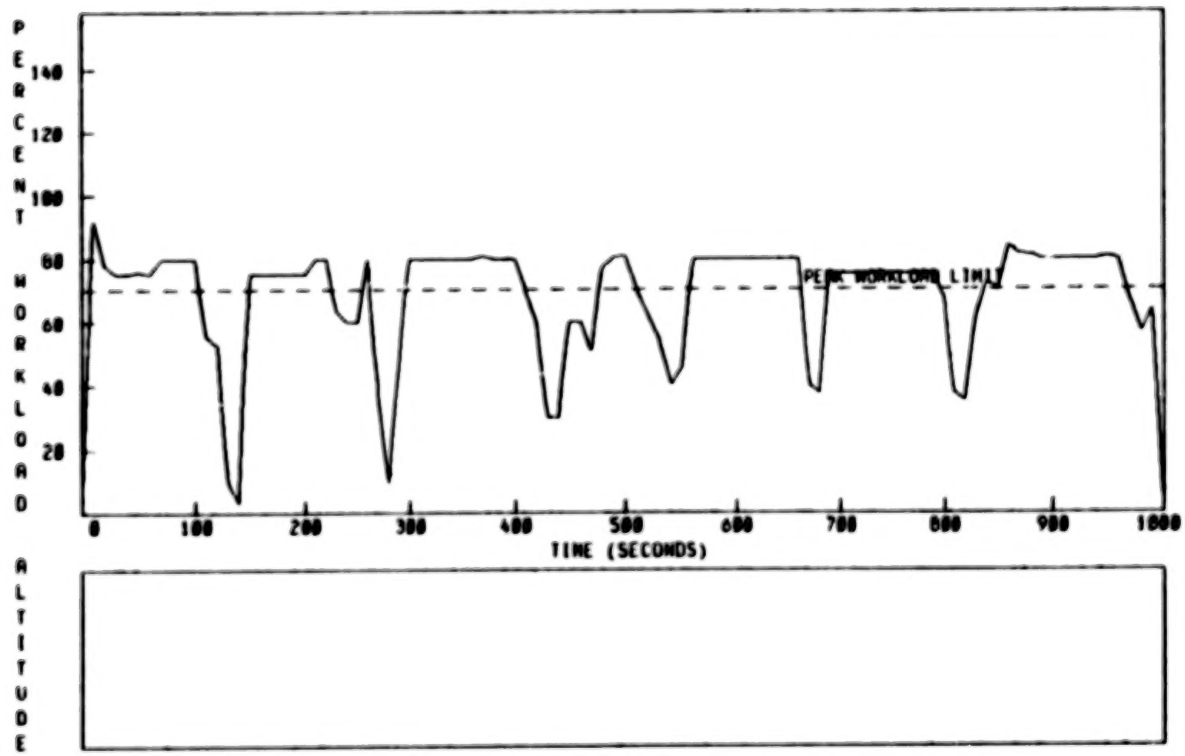
MISSION
BYERS APP SCENARIO



UNSHIFTED
AUG 1e, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- COGNITION
CONFIGURATION- NASA 515 - AFD

MISSION
BYERS APP SCENARIO

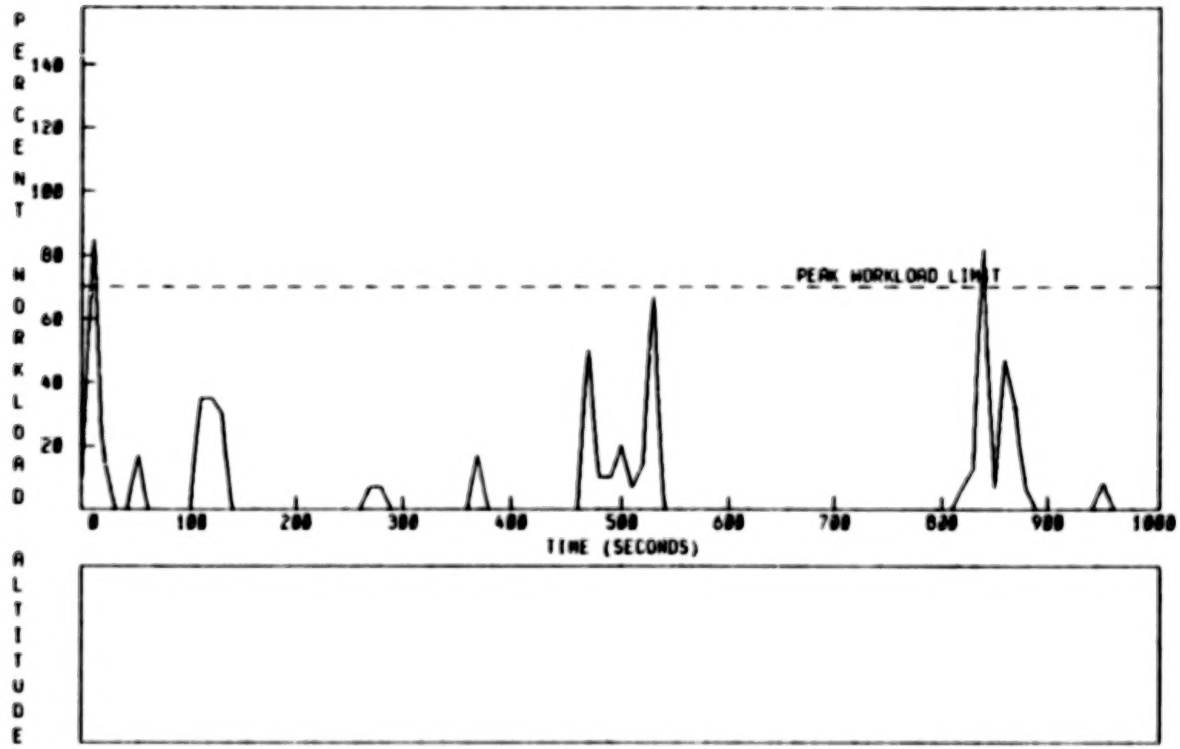


54

UNSHIFTED
AUG 14, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- TOTAL COMMUNICATION
CONFIGURATION- NASA 515 - AFD

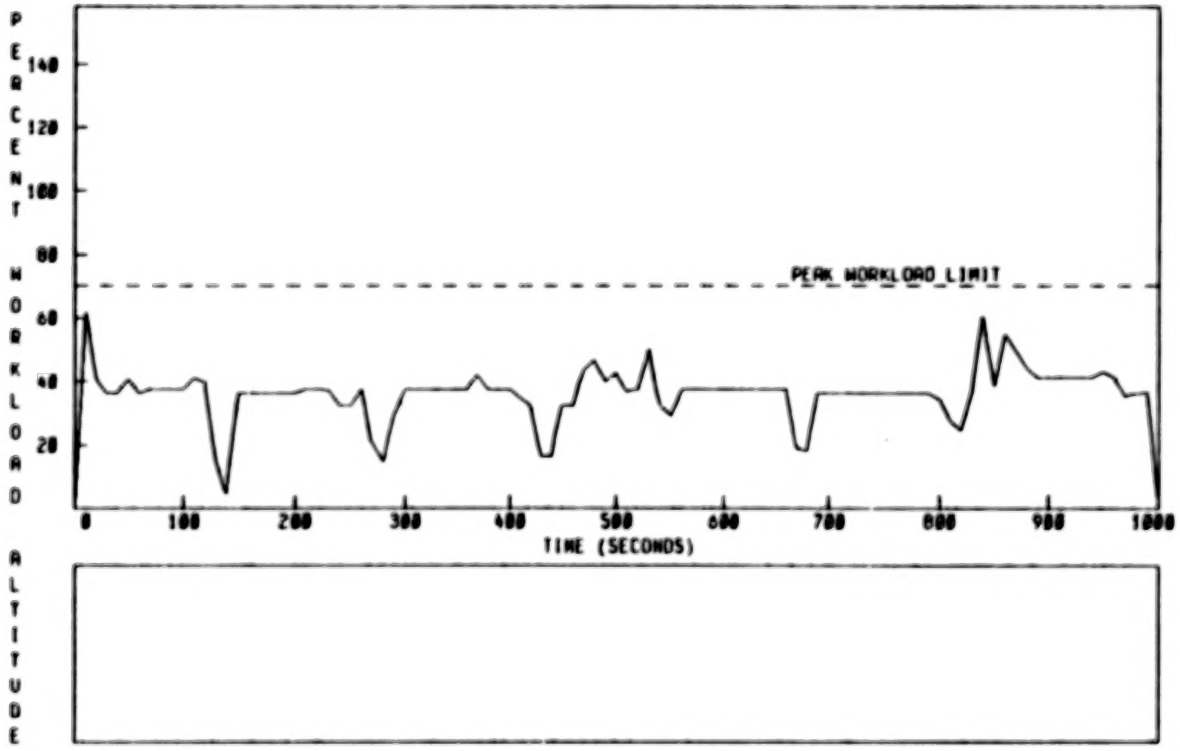
MISSION
BYERS APP SCENARIO

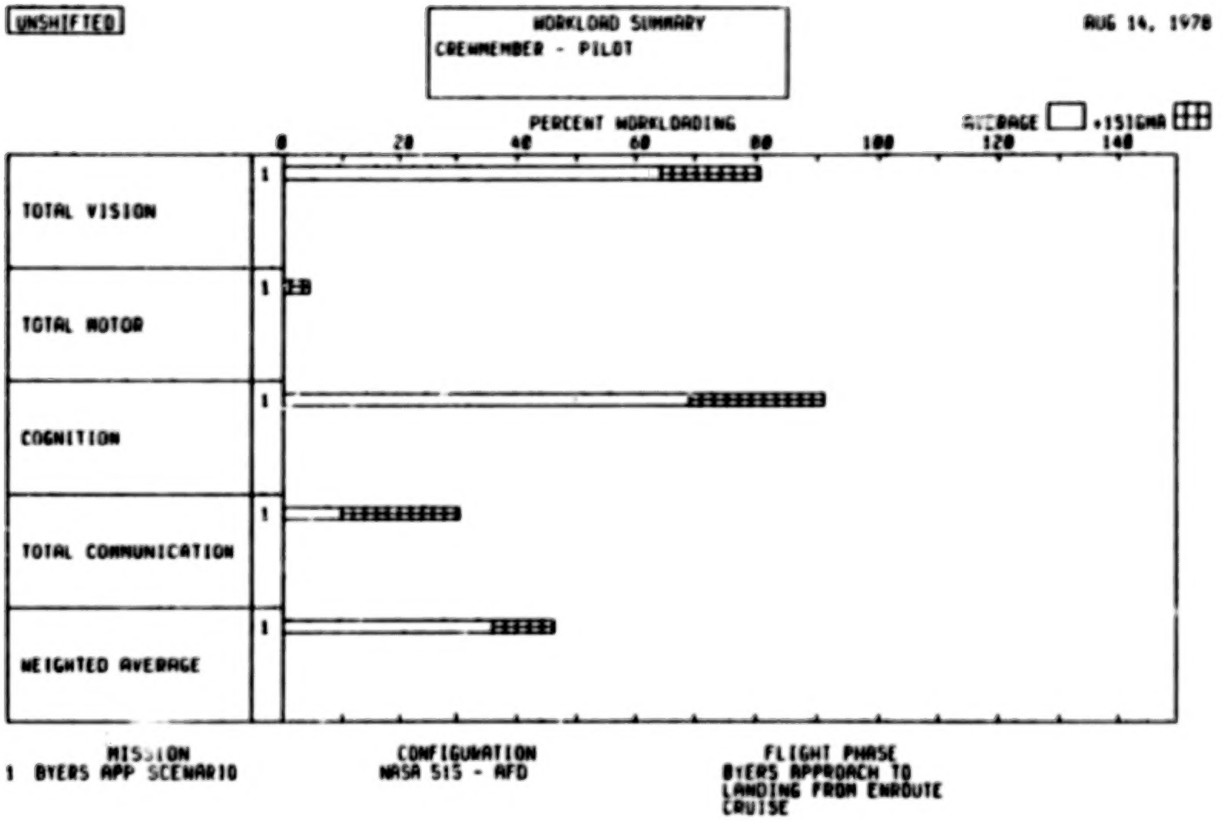


UNSHIFTED
AUG 14, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- WEIGHTED CHANNEL AVERAGE
CONFIGURATION- NASA 515 - AFD

MISSION
BYERS APP SCENARIO

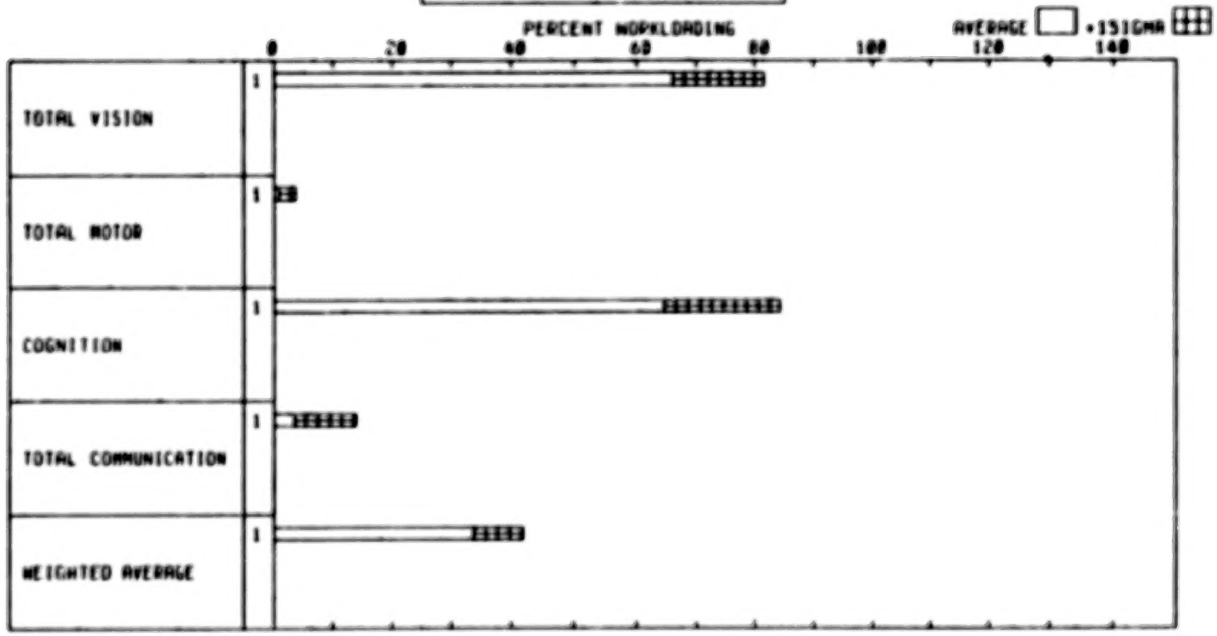



UNSHIFTED
WORKLOAD SUMMARY
CREWMEMBER - PILOT
AUG 14, 1978
PERCENT WORKLOADING
AVERAGE
+1SIGMA
0
20
40
60
80
100
120
140
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 BYERS APP SCENARIO
CONFIGURATION
NASA 515 - AFD
FLIGHT PHASE
BYERS APPROACH TO
LANDING FROM ENROUTE
CRUISE

UNSHIFTED

WORKLOAD SUMMARY
CREWMEMBER - PILOT

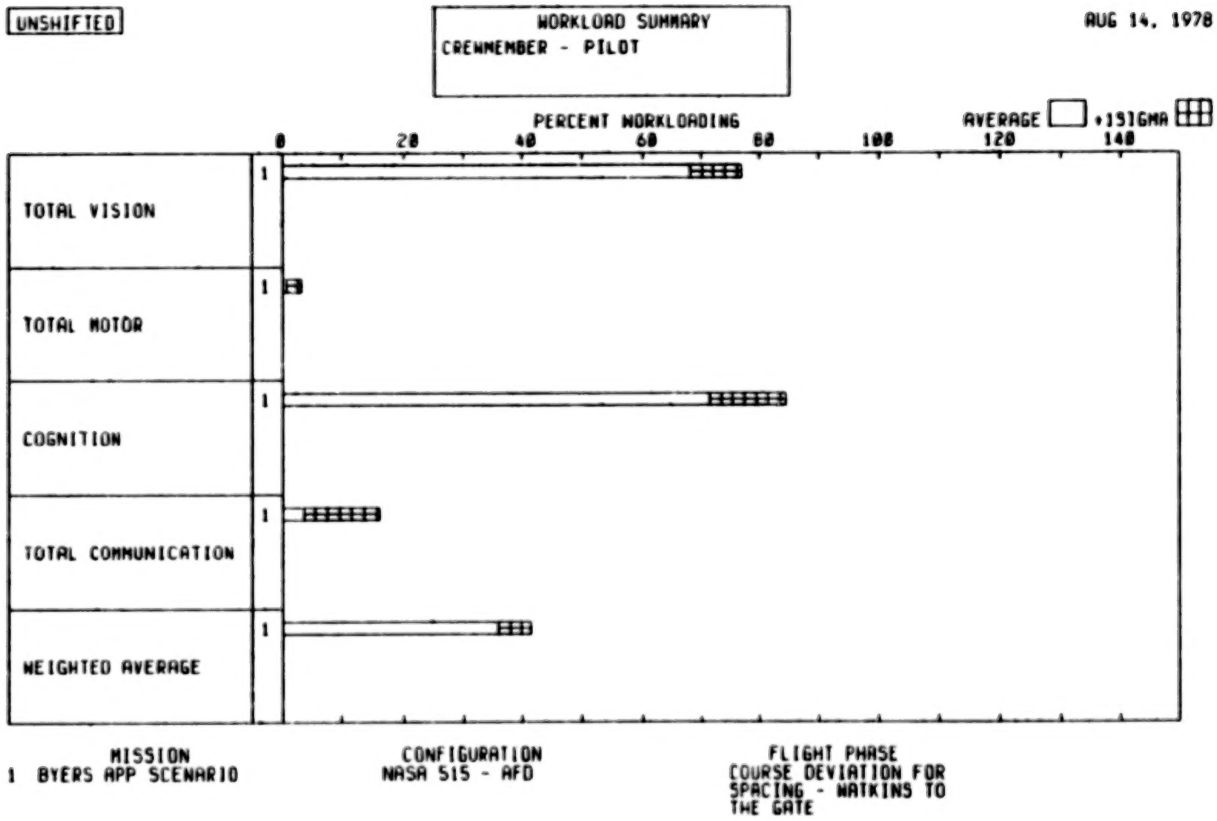
AUG 14, 1978



MISSION
1 BYERS APP SCENARIO

CONFIGURATION
NASA 515 - AFD

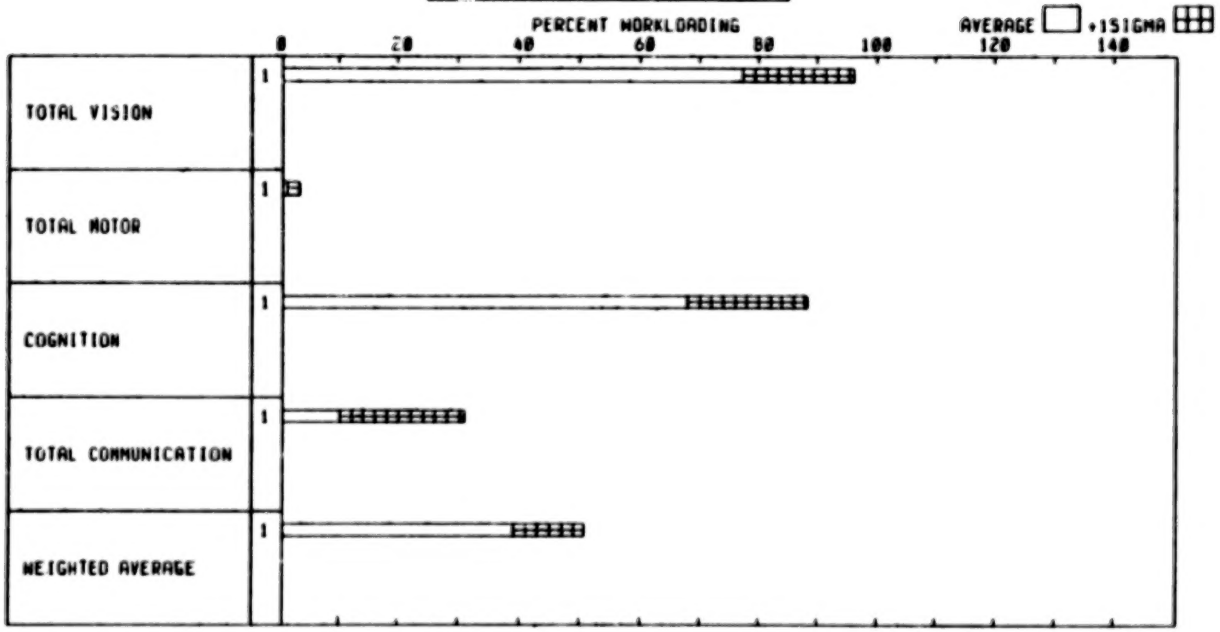
FLIGHT PHASE
DESCENT FROM BYERS TO WATKINS INTERSECTION


UNSHIFTED
WORKLOAD SUMMARY
CREWMEMBER - PILOT
AUG 14, 1978
PERCENT WORKLOADING
AVERAGE
+1SIGMA
0
20
40
60
80
100
120
140
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 BYERS APP SCENARIO
CONFIGURATION
NASA 515 - AFD
FLIGHT PHASE
COURSE DEVIATION FOR SPACING - WATKINS TO THE GATE

UNSHIFTED

WORKLOAD SUMMARY
CREWMEMBER - PILOT

AUG 14, 1978



MISSION
1 BYERS APP SCENARIO

CONFIGURATION
NASA 515 - AFD

FLIGHT PHASE
FINAL APPROACH TO
FROM THE GATE THRU
TOUCHDOWN

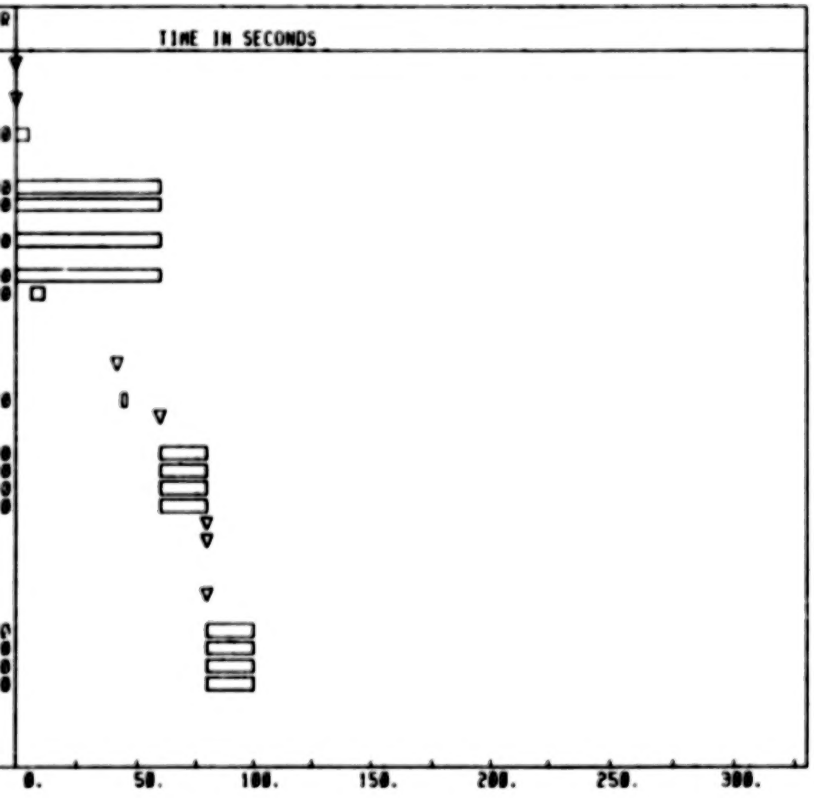
UNSHIFTED

MISSION TIMELINE
MISSION - BYERS APP SCENARIO

CONFIGURATION - NASA 515 - AFD
FLIGHT PHASE - BYERS APPROACH TO LANDING FROM ENROUTE CRUISE
CREWMEMBER - PILOT

AUG 14, 1978

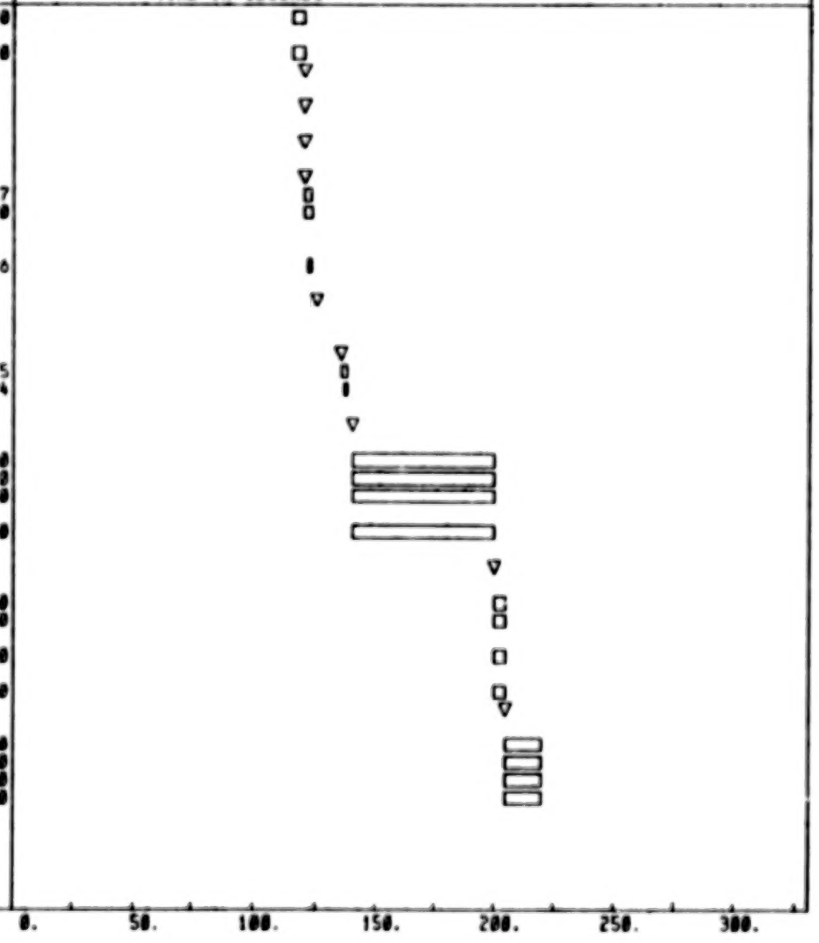
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
BYRZ01	START OF FLIGHT SCENARIO MESSAGE	
ISP605	FLIGHT INSTRUMENT SCAN - F	
1PBYRZ01	MON COM- UNITED 24, CONTACT DENVER APRCH ON 120.95	5.00
2J 42	MON EADI	60.00
3L 02	MON VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EHSI DISPLAY	60.00
1PBYRZ03	MON COM- UNITED 24, DENVER, PROCEED TO BYERS DESCEND AND MAINTAIN 13000	5.00
140823	REPORT 1000 FT TO LEVEL OFF	
1P 11	MON VERBAL REPORT	1.70
ISP205	FLIGHT INSTRUMENT SCAN - D	
2K 16	MON EHSI DISPLAY	20.00
2J 43	MON EADI	20.00
3L 04	MON IVSI INDIC	20.00
3A 14	MON AIRSPEED INDIC	20.00
BYRZ50	UAL 24 REACHES 13000	
ALTCPT	PILOT MONITORS EADI-EHSI SYMBOLS FOR ALTITUDE CAPTURE	
ISP205	FLIGHT INSTRUMENT SCAN - D	
2J 43	MON EADI	20.00
3L 04	MON IVSI INDIC	20.00
3A 14	MON AIRSPEED INDIC	20.00
2K 16	MON EHSI DISPLAY	20.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
BYRZ51	U 24 CLEARED FOR DES CENT		
BYRZ02	RECEIVE CLEARANCE TO 12000		
ISP055	FLIGHT INSTRUMENT SCAN - A		
3L 02	MON VERTICAL SPEED INDIC	5.00	
3A 10	MONITOR AIRSPEED INDIC	5.00	
2K 16	MON EHSI DISPLAY	5.00	
1PBYRZ05	MON CALL- UNITED 24 DESCEND AND MAINTAIN 12000.	3.50	
2J 42	MON EADI	5.00	
ALT2CH	ALTATUDE CHANGE P&DC FOR 2D FLIGHT PATH		
2H 33	ROTATE ALT ENG KNOB	2.47	
2H 31	MON ALT ENG MODE LT BLUE - ALT ENG MODE PRESELECTED	0.70	
2H 34	READ ALT ENG VALUE ON DIGITAL INDIC	1.05	
2H 28	PRESS ALT ENG MODE S SW	1.42	
2H 30	MON ALT ENG MODE LT ORANGE - ALT ENG MODE ARMED	0.70	
2H 26	ROTATE FPA SEL KNOB	2.45	
2K 32	MON ALT/RNG SYMBOLS	2.00	
2H 21	PRESS FPA SEL MODE SW	1.40	
3A 01	MONITOR IDICATED AIRSPEED INDIC	0.60	
BYRZ03	RECEIVG CLEARRANCE TO 11000		
1PBYRZ07	MON COMM- UNITED 24 DESCEND AND MAINTAIN 11000.	3.50	
3L 05	MON IVSI	0.60	
3H 02	MON CORR BARO ALT INDIC	0.60	
ISP055	FLIGHT INSTRUMENT SCAN - A		
2J 42	MON EADI	5.00	
3L 02	MON VERTICAL SPEED INDIC	5.00	

0. 50. 100. 150. 200. 250. 300.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
3A 10	MONITOR AIRSPEED INDIC	5.00
2K 16	MDN EWSI DISPLAY	5.00
BYRZ52	U 24 SPEED REDUCTION TO 250 KTS	
BYRZ71	U 24 ENDS DESCENT FOR SPEED REDUCTION	
BYRZ04	RECEIVG SPEED REDUCTION TO 250 KTS	
AFDALT	ALTITUDE CHANGE PROC	
2H 33	ROTATE ALT ENG KNOB	2.47
1PBYRZ09	MDN COMM- UNITED 24 REDUCE SPEED TO 250 KNOTS.	3.00
2H 34	READ ALT ENG VALUE ON DIGITAL INDIC	1.06
ALTCPT	PILOT MONITORS EADI-EHSI SYMBOLS FOR ALTITUDE CAPTURE	
AFDSPD	AIRSPEED CHANGE PROC	
2H 47	ROTATE CAS ENG KNOB	2.45
2H 48	READ CAS ENG VALUE ON DIGITAL INDIC	1.04
ISP005	FLIGHT INSTRUMENT SCAN - F	
2K 15	MDN EWSI DISPLAY	60.00
2J 42	MDN EADI	60.00
3L 02	MDN VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
ISP055	FLIGHT INSTRUMENT SCAN - A	
2J 42	MDN EADI	5.00
3L 02	MDN VERTICAL SPEED INDIC	5.00
3A 10	MONITOR AIRSPEED INDIC	5.00
2K 16	MDN EWSI DISPLAY	5.00
ISP155	FLIGHT INSTRUMENT SCAN - C	
3L 04	MDN IVSI INDIC	15.00
3A 14	MDN AIRSPEED INDIC	15.00
2K 16	MDN EWSI DISPLAY	15.00
2J 43	MDN EADI	15.00



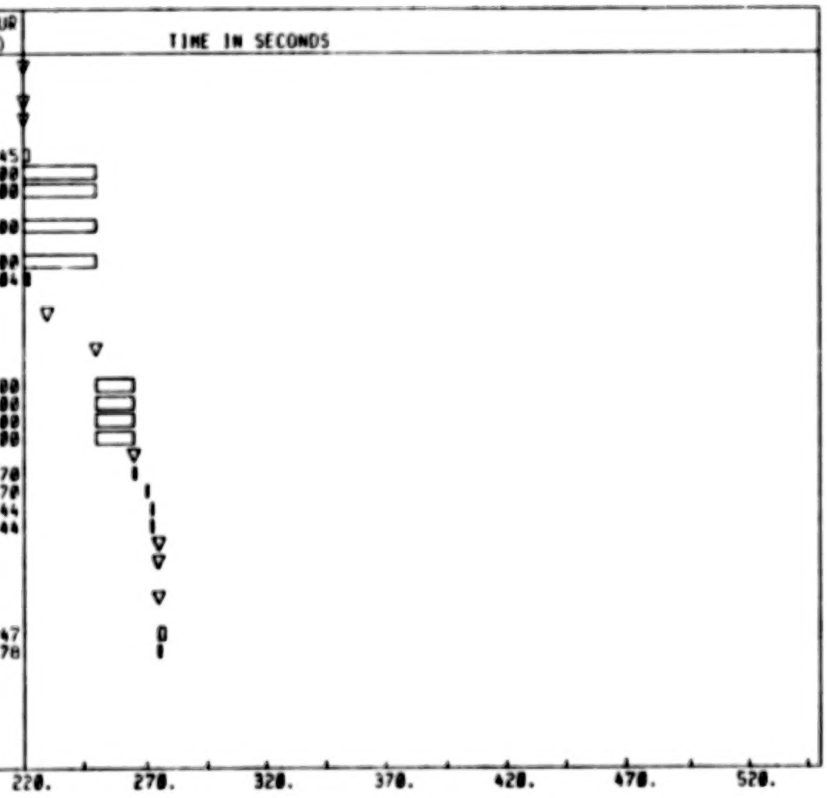
UNSHIFTED

MISSION TIMELINE
MISSION - BYERS APP SCENARIO

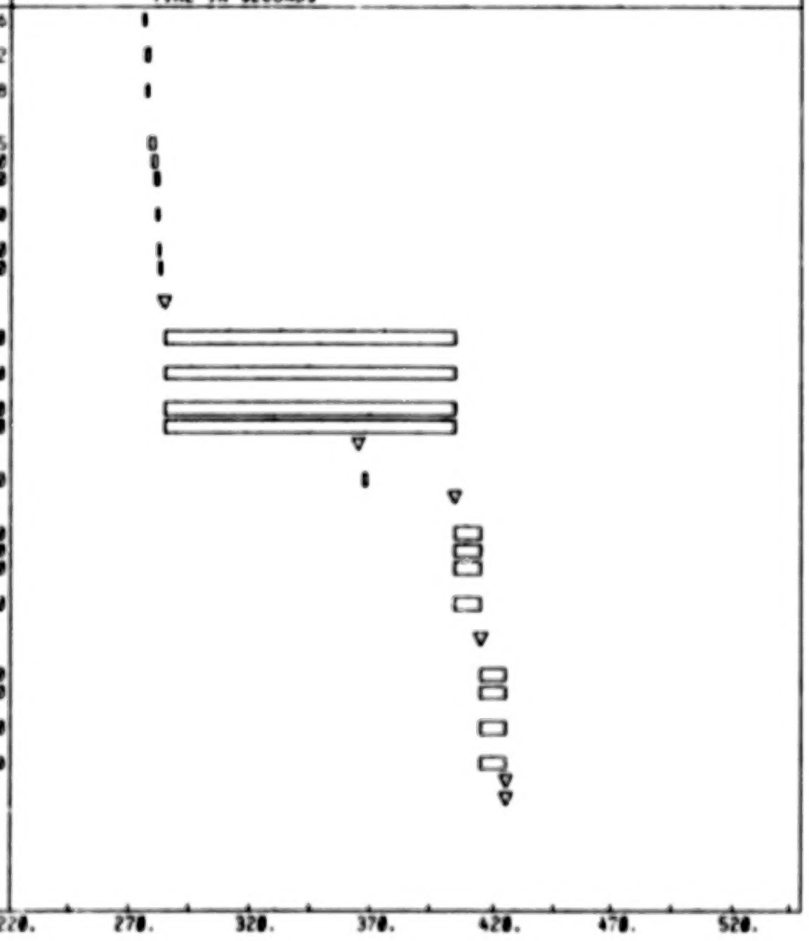
CONFIGURATION - NASA 515 - AFD
FLIGHT PHASE - DESCENT FROM BYERS TO WATKINS INTERSECTION
CREWMEMBER - PILOT

AUG 14, 1978

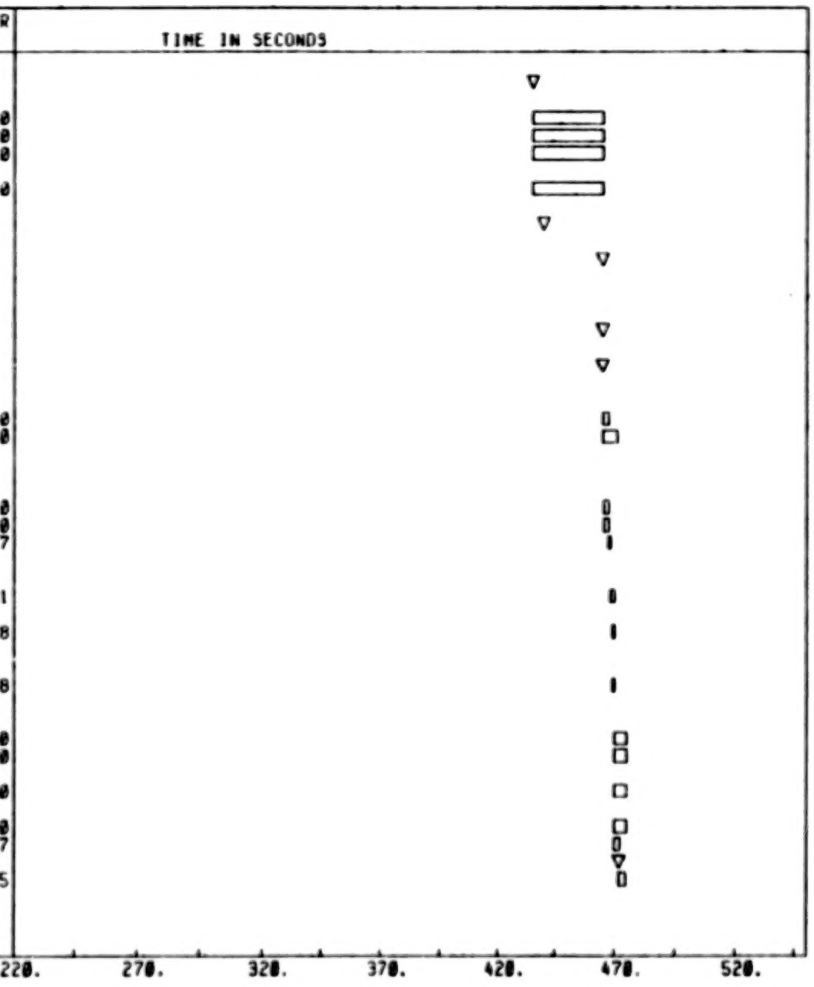
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
BYR753	U 24 SPEED REDUCTION TO 200 KTS	
AFDSPD	AIRSPEED CHANGE PROC	
ISP305	FLIGHT INSTRUMENT SCAN - E	
2H 47	ROTATE CAS ENG KNOB	2.45
2J 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
2H 48	READ CAS ENG VALUE ON DIGITAL INDIC	1.04
BYR754	U 24 CROSSES BYERS INTERSECTION < 11000	
ISP155	FLIGHT INSTRUMENT SCAN - C	
2J 43	MON EADI	15.00
3L 04	MON IVSI INDIC	15.00
3A 14	MON AIRSPEED INDIC	15.00
2K 16	MON EHSI DISPLAY	15.00
160811	SET FLAPS TO FLAPS 1	
1P160858	CALL OUT -(FLAPS 1)	0.70
1P 10	MON VERBAL REPORT	0.70
7F 30	MON ENG NO 2 EPR IND	0.44
7F 25	MON ENG NO 1 EPR IND	0.44
BYR761	U 24 REACHS 200 KTS	
BYR755	U 24 BEGINS STAR DESCENT TO 8000	
ALT2CH	ALTITUDE CHANGE PROC FOR 2D FLIGHT PATH	
2H 33	ROTATE ALT ENG KNOB	2.47
2H 31	MON ALT ENG MODE LT BLUE - ALT ENG MODE PRESELECTED	0.78



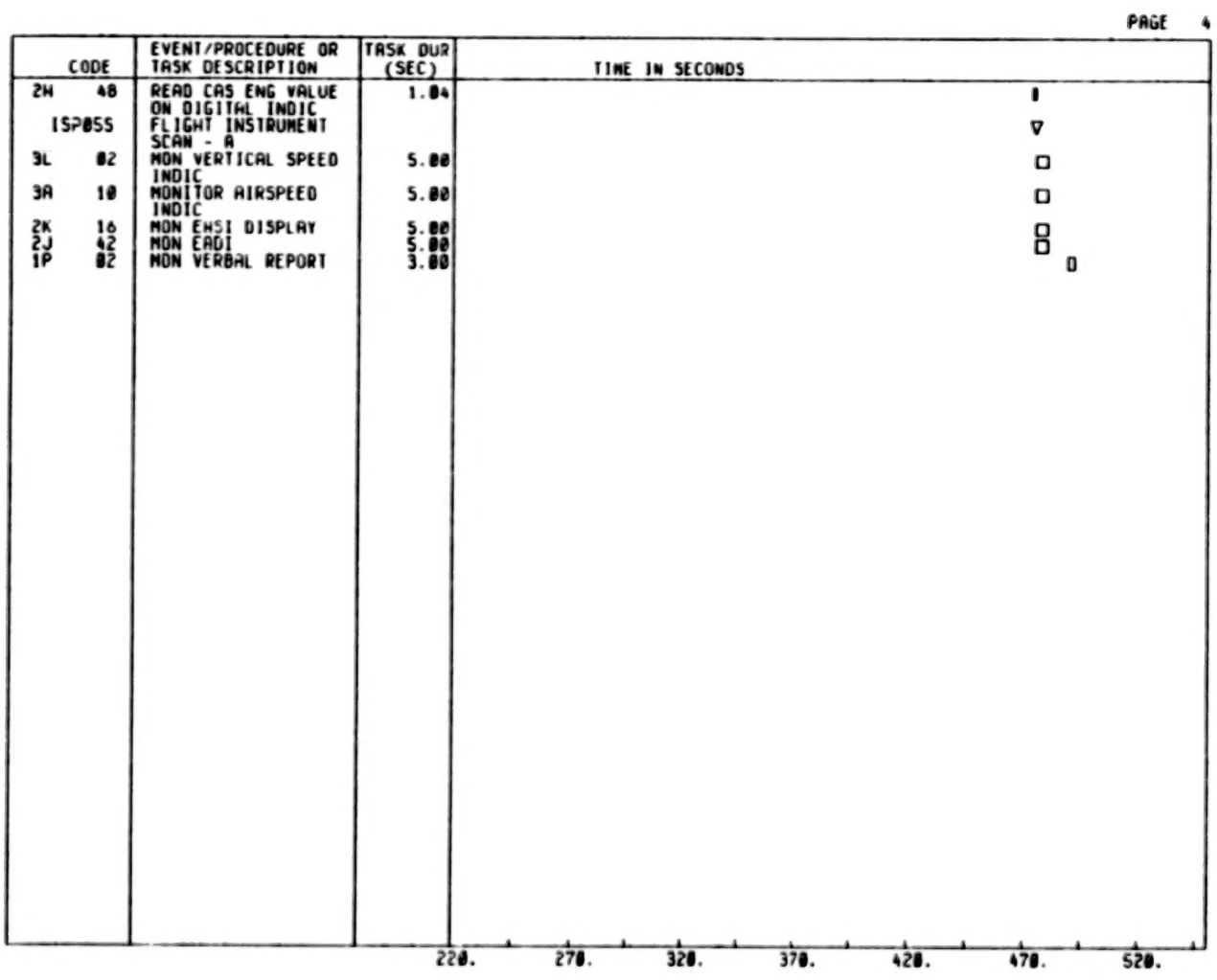
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
2H 34	READ ALT ENG VALUE ON DIGITAL INDIC	1.06
2H 29	PRESS ALT ENG MODE SW	1.42
2H 30	MON ALT ENG MODE LT ORANGE - ALT ENG MODE ARMED	0.70
2H 26	ROTATE FPA SEL KNOB	2.45
2K 32	MON ALT/RNG SYMBOLS	2.00
2H 21	PRESS FPA SEL MODE SW	1.40
3A 01	MONITOR IDICATED AIRSPEED INDIC	0.60
3L 05	MON IVSI	0.60
3H 02	MON CORR BARO ALT INDIC	0.60
ISP120	FLIGHT INSTRUMENT SCAN - H	
3L 03	MON VERTICAL SPEED INDIC	120.00
3A 11	MONITOR AIRSPEED INDIC	120.00
2K 15	MON EHSI DISPLAY	120.00
2J 45	MON EADI	120.00
140023	REPORT 1200 FT TO LEVEL OFF	
1P 11	MON VERBAL REPORT	1.70
ISP105	FLIGHT INSTRUMENT SCAN - B	
2K 14	MON EHSI DISPLAY	10.00
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
ISP105	FLIGHT INSTRUMENT SCAN - B	
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
BYR267 ALTCPT	U 24 REACHES 0000 PILOT MONITORS EADI-EHSI SYMBOLS FOR ALTITUDE CAPTURE	



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
ISP305	FLIGHT INSTRUMENT SCAN - E	
2K 14	MON EHSI DISPLAY	30.00
2J 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
170807	TUNE NAV RADIOS FOR MLS APPROACH.	
BYRZ70	U 24 CROSS WATKINS < 200 KTS < 8000, RECEIVE METER/SPACING INSTRUCTIONS	
BYRZ07	RECEIVE METER/SPACE INSTRUCTIONS	
TKACHG	HEADING CHANGE PROC TO DEVIATE FROM 2D FLIGHT PATH	
2H 19	ROTATE TKA SEL KNOB	2.50
1PBYRZ16	MSG- UNITED 24 TURN RIGHT HEADING 350 REDUCE TO APPROACH SPEED (150KTS)	6.00
2K 47	MON TRACK ANGLE SYM	2.20
2K 17	MON EHSI DISPLAY	2.20
2H 17	MON TKA SEL MODE LT BLUE - TKA SEL MODE PRESELECTED	0.77
2H 14	PRESS TKA SEL MODE SW	1.41
2H 15	MON TKA SEL MODE LT GREEN - TKA SEL MODE ENGAGED	0.78
2H 38	MON HOR PATH MODE LT DARK - HOR PATH MODE DISENGAGED	0.78
3H 07	MON ALTIMETER	5.00
2K 59	MON CURVED TREND VECTOR SYMBOLS	5.00
3A 10	MONITOR AIRSPEED INDIC	5.00
2J 42	MON EADI	5.00
2K 16	MON EHSI DISPLAY	2.27
AFDSPD	AIRSPEED CHANGE PROC	
2H 47	ROTATE CAS ENG KNOB	2.45



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
2H 48	READ CAS ENG VALUE ON DIGITAL INDIC	1.04	
ISP055	FLIGHT INSTRUMENT SCAN - A		
3L 02	MON VERTICAL SPEED INDIC	5.00	
3A 10	MONITOR AIRSPEED INDIC	5.00	
2K 16	MON EHSI DISPLAY	5.00	
2J 42	MON EADI	5.00	
1P 02	MON VERBAL REPORT	3.00	



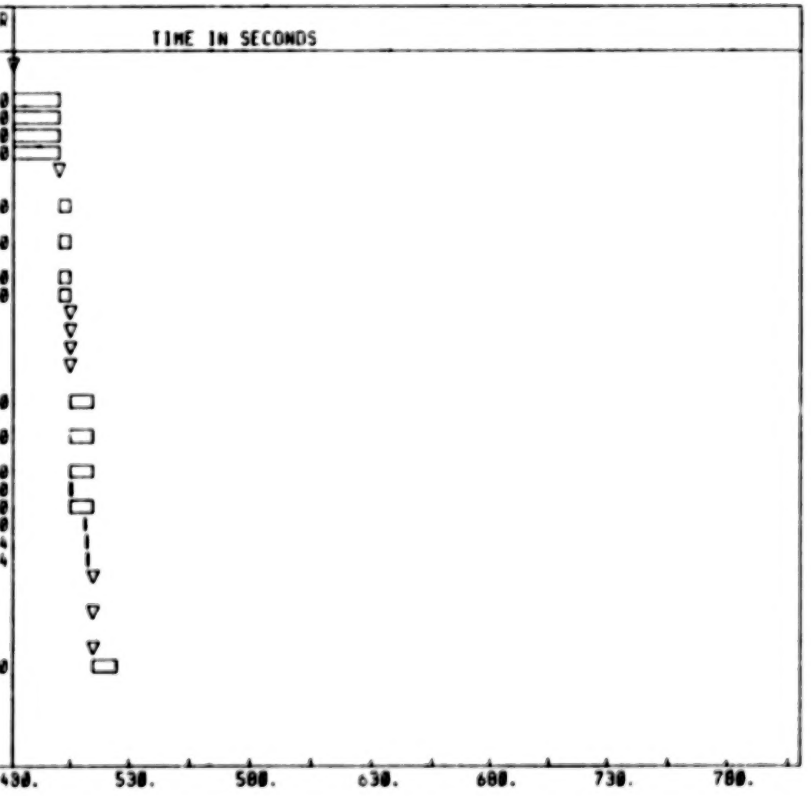
UNSHIFTED

MISSION TIMELINE
MISSION - BYERS APP SCENARIO

CONFIGURATION - NASA 515 - AFD
FLIGHT PHASE -COURSE DEVIATION FOR SPACING - WATKINS TO THE GATE
CREWMEMBER - PILOT

AUG 14, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
ISP205	FLIGHT INSTRUMENT SCAN - D	
2J 43	MON EADI	20.00
3L 04	MON IVSI INDIC	20.00
3A 14	MON AIRSPEED INDIC	20.00
2K 16	MON EHSI DISPLAY	20.00
ISP055	FLIGHT INSTRUMENT SCAN - A	
3L 02	MON VERTICAL SPEED INDIC	5.00
3A 10	MONITOR AIRSPEED INDIC	5.00
2K 16	MON EHSI DISPLAY	5.00
2J 42	MON EADI	5.00
BYR763	SET FLAPS TO POS 5	
160017	SET FLAPS TO FLAPS 5	
160010	FLAP SET PROCEDURE	
ISP105	FLIGHT INSTRUMENT SCAN - B	
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
1P160061	CALL OUT -[FLAPS 5]	0.70
2J 42	MON EADI	10.00
1P 10	MON VERBAL REPORT	0.70
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
ISP105	FLIGHT INSTRUMENT SCAN - B	
160025	SET FLAPS TO FLAPS 15	
160010	FLAP SET PROCEDURE	
3L 02	MON VERTICAL SPEED INDIC	10.00

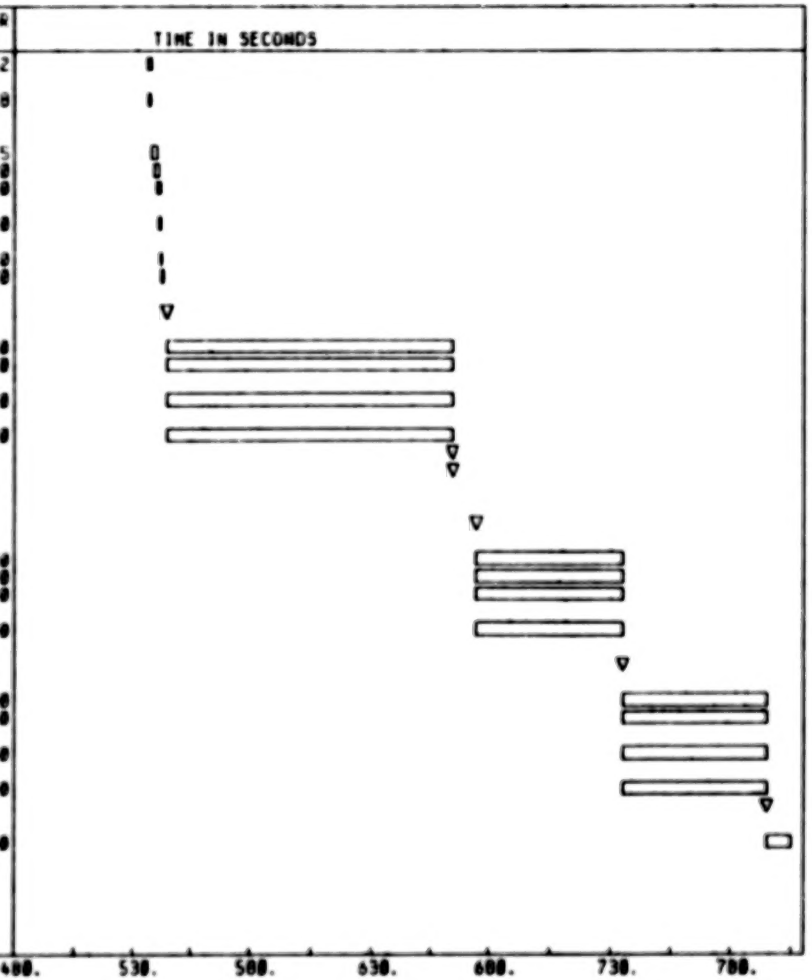


CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
1P160062	CALL OUT -(FLAPS 15)	0.70
2J 42	MON EADI	10.00
1P 10	MON VERBAL REPORT	0.70
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
BYRZ08	RECEIVE INSTRUCTIONS TO PROCEED DIRECT TO THE GATE	
1PBYRZ18	MSG- UNITED 24, CLEARED DIRECT TO APPCH GATE, CONTACT TOWER AT ON 120.8	6.00
TXACHG	HEADING CHANGE PROC TO DEVIATE FROM 2D FLIGHT PATH	
2H 19	ROTATE TKA SEL KNOB	2.50
2K 17	MON EHSI DISPLAY	2.20
2K 47	MON TRACK ANGLE SYM	2.20
2H 17	MON TKA SEL MODE LT BLUE - TKA SEL MODE PRESELECTED	0.77
2H 14	PRESS TKA SEL MODE SW	1.41
2H 38	MON HOR PATH MODE LT DARK - HOR PATH MODE DISENGAGED	0.70
2H 15	MON TKA SEL MODE LT GREEN - TKA SEL MODE ENGAGED	0.70
3H 07	MON ALTIMETER	5.00
2K 59	MON CURVED TREND VECTOR SYMBOLS	5.00
3A 10	MONITOR AIRSPEED INDIC	5.00
2K 16	MON EHSI DISPLAY	2.27
2J 42	MON EADI	5.00
ALT2CH	ALTATUDE CHANGE PROC FOR 2D FLIGHT PATH	
2H 31	MON ALT ENG MODE LT BLUE - ALT ENG MODE PRESELECTED	0.70
2H 33	ROTATE ALT ENG KNOB	2.47
2H 34	READ ALT ENG VALUE ON DIGITAL INDIC	1.06

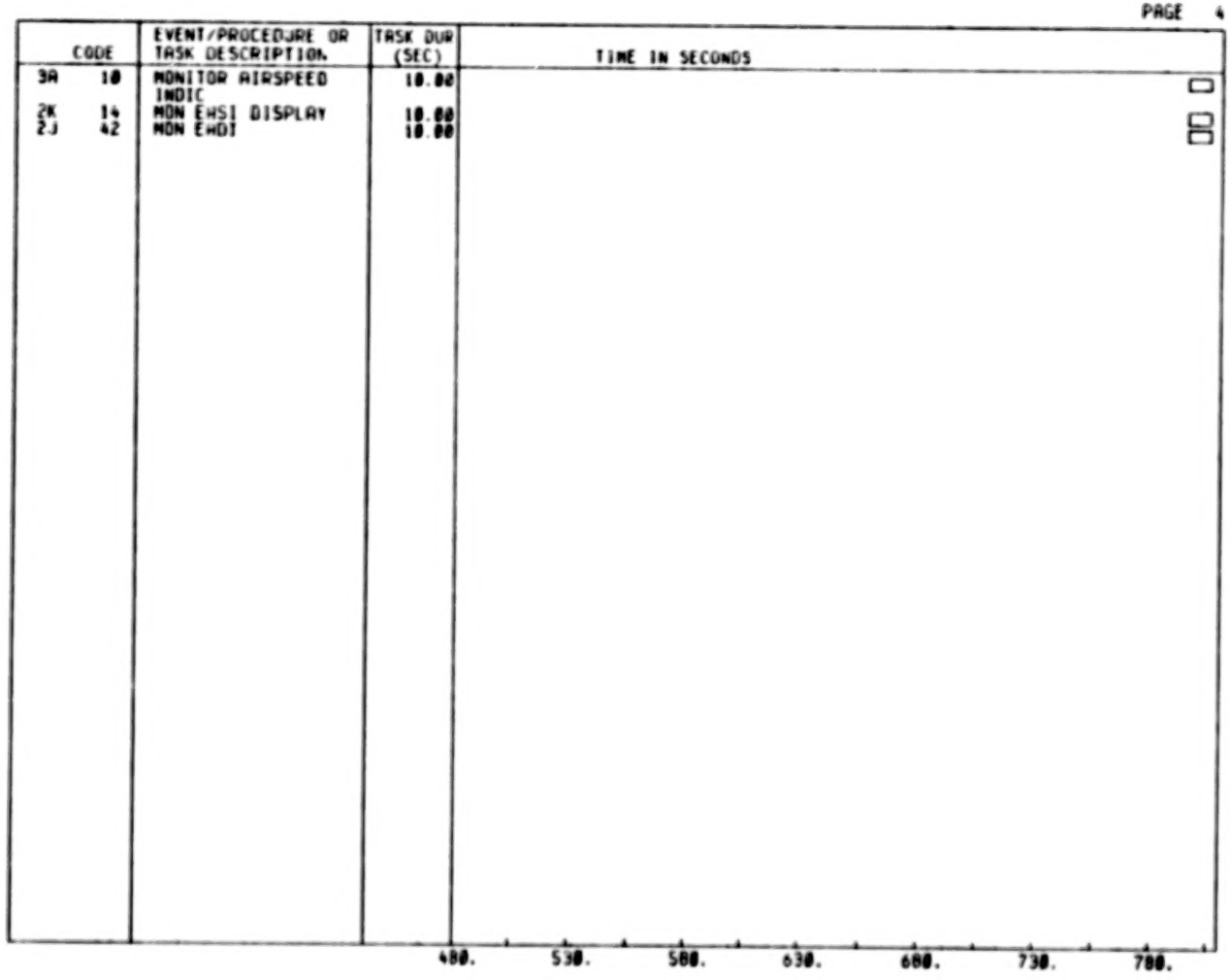
TIME IN SECONDS

480. 530. 580. 630. 680. 730. 780.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
2H 28	PRESS ALT ENG MODE S SW	1.42
2H 30	MON ALT ENG MODE LT ORANGE - ALT ENG MODE ARMED	0.70
2H 26	ROTATE FPA SEL KNOB	2.45
2K 32	MON ALT/RNG SYMBOLS	2.00
2H 21	PRESS FPA SEL MODE SW	1.40
3A 01	MONITOR IDICATED AIRSPEED INDIC	0.60
3L 05	MON IVSI	0.60
3H 02	MON CORR BARO ALT INDIC	0.60
ISP120	FLIGHT INSTRUMENT SCAN - H	
2J 43	MON EADI	120.00
3L 03	MON VERTICAL SPEED INDIC	120.00
3A 11	MONITOR AIRSPEED INDIC	120.00
2K 15	MON EHSI DISPLAY	120.00
BTR269	U 24 REACHES 6500	
ALTCPT	PILOT MONITORS EADI-EHSI SYMBOLS FOR ALTITUDE CAPTURE	
ISP605	FLIGHT INSTRUMENT SCAN - F	
2K 15	MON EHSI DISPLAY	60.00
2J 42	MON EADI	60.00
3L 02	MON VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
ISP605	FLIGHT INSTRUMENT SCAN - F	
2J 42	MON EADI	60.00
3L 02	MON VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EHSI DISPLAY	60.00
ISP105	FLIGHT INSTRUMENT SCAN - B	
3L 02	MON VERTICAL SPEED INDIC	10.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
3A 10	MONITOR AIRSPEED INDIC	10.00	
2K 14	MON EHSI DISPLAY	10.00	
2J 42	MON EHDI	10.00	



UNSHIFTED

MISSION TIMELINE
MISSION - BYERS APP SCENARIO

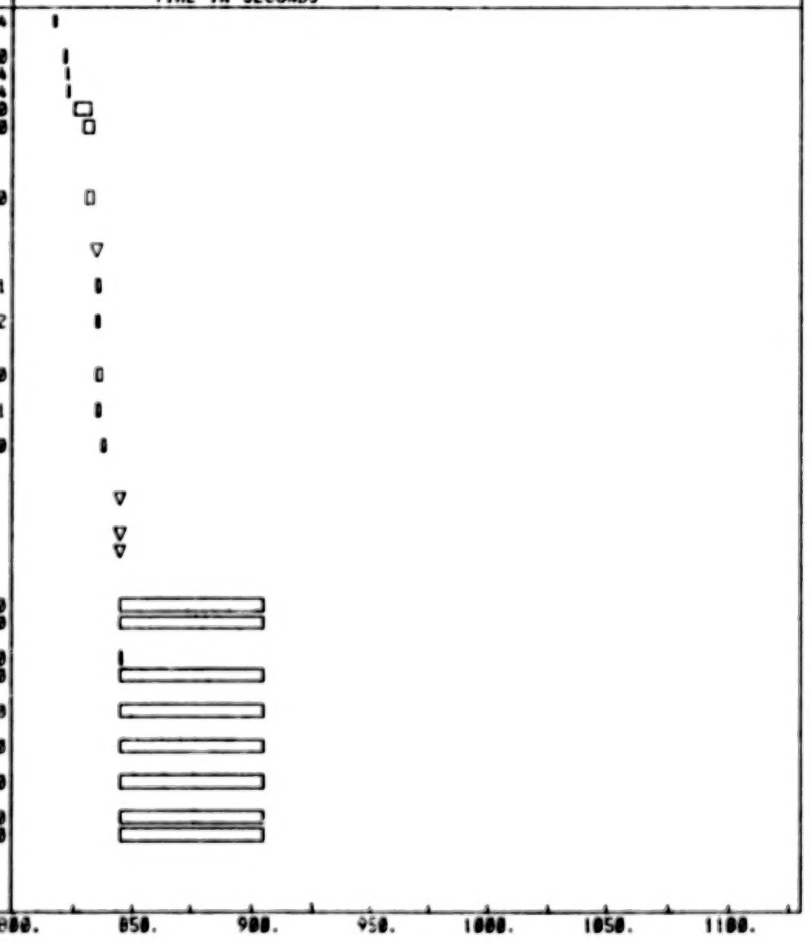
CONFIGURATION - NASA 515 - AFD
FLIGHT PHASE -FINAL APPROACH TO
FROM THE GATE THRU
TOUCHDOWN
CREWMEMBER - PILOT

AUG 14, 1978

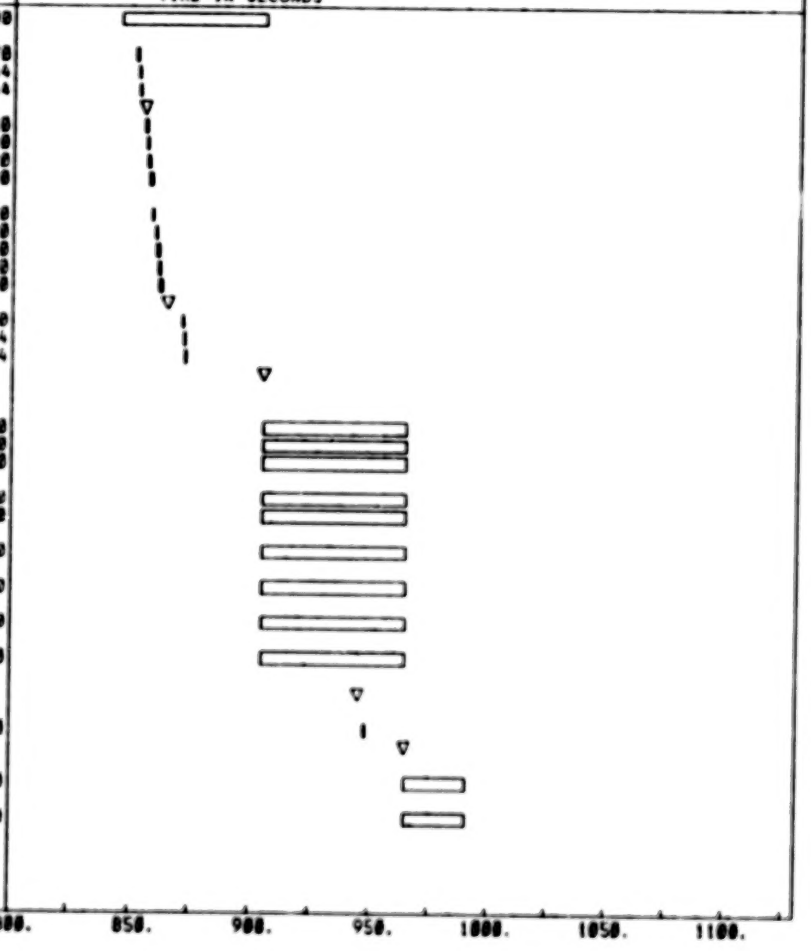
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
BYR250	U 24 CROSSES GATE AT 6500 AND 150 KTS. SLOWS TO 120KTS. FLAPS ON SCHED		▽
LNDARM	PILOT ARMS AUTOLAND FEATURE ON CMP		▽
2K 17	MON EHSI DISPLAY	2.20	D
2H 36	MON HOR PATH MODE LT GREEN - HOR PATH MODE ENGAGED	0.78	I
2H 35	PRESS HOR PATH MODE SW	1.72	D
2H 38	MON HOR PATH MODE LT DARK - HOR PATH MODE DISENGAGED	0.78	I
2H 13	MON LAND MODE LT DARK - LAND MODE DISENGAGED	1.85	I
2H 10	PRESS LAND MODE SW	2.13	D
AFDSPD	AIRSPEED CHANGE PROC		▽
ISP305	FLIGHT INSTRUMENT SCAN - E		▽
160053	SET FLAPS TO FLAPS 25		▽
160010	FLAP SET PROCEDURE		▽
LNDCLR	CONTACT TOWER FOR FINAL LANDING CLEARANCE		▽
3L 02	MON VERTICAL SPEED INDIC	30.00	▭
3A 10	MONITOR AIRSPEED INDIC	30.00	▭
2K 14	MON EHSI DISPLAY	30.00	▭
1P160070	CALL OUT -(FLAPS 25)	0.70	I
2H 47	ROTATE CAS ENG KNOB	2.45	D
2J 42	MON EADI	30.00	▭

800. 850. 900. 950. 1000. 1050. 1100.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
2H 48	READ CAS ENG VALUE ON DIGITAL INDIC	1.04
1P 10	MON VERBAL REPORT	0.70
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
1B 19	MON VHF-2 COMM AUDIO	7.00
1PLNDCL4	MON RADIO COMM - (UNITED 24, DENVER TOWER, ROGER, CLEAR TO LAND RUNWAY TWO SIX . WIND TWO ONE ZERO DEGREES AT ZERO NINER.)	4.00
1PLNDCL5		3.00
160059	CROSS RWY XX OUTER MARKER	
3V 09	MON GLIDE SLOPE ANNUN LT GREEN	1.21
3V 11	MONITOR OUTER MARKER LT ON AND AUDIBLE SIGNAL	0.72
3N 03	START ELAPSED TIME INDIC	2.10
3V 06	MON LOC ANNUN LT GREEN	1.21
1P160675	CALL OUT -(GEAR DOWN AND LANDING CHECK-LIST)	1.00
160057	SET FLAPS TO FLAPS 40	
160018	FLAP SET PROCEDURE	
ATOLN6	MONITOR A/C ON FINAL APPROACH - PILOT (60 SEC)	
3H 06	MON ALTIMETER	60.00
9L 02	MON VERTICAL SPEED INDIC	60.00
1P160073	CALL OUT -(FLAPS 40)	0.70
2J 04	MON FLT PATH ACCEL INDIC	60.00
2J 09	MON FLT PATH ANGLE INDIC	60.00
2J 38	MONITOR LOCALIZER INDICATOR	60.00
2J 39	MON GLIDE SLOPE ATT INDIC	60.00
2J 30	MON SPD ERR BAR	60.00
2J 40	MON EADI RNWY	60.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
3A 10	MONITOR AIRSPEED INDIC	60.00
1P 10	MON VERBAL REPORT	0.70
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
160862	LANDING CHECKLIST	
1P 10	MON VERBAL REPORT	0.60
1P 14	MON VERBAL REPORT	0.40
1P 10	MON VERBAL REPORT	0.70
1P160879	CALL OUT -(ARMED - GREEN LIGHT)	1.30
1P 10	MON VERBAL REPORT	0.70
1P 14	MON VERBAL REPORT	0.40
1P 12	MON VERBAL REPORT	1.10
1P 10	MON VERBAL REPORT	1.00
1P 12	MON VERBAL REPORT	1.10
160818	FLAP SET PROCEDURE	
1P 10	MON VERBAL REPORT	0.70
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
ATOLN6	MONITOR A/C ON FINAL APPROACH - PILOT (60 SEC)	
2J 30	MON SPD ERR BAR	60.00
2J 40	MON EADI RNWY	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
3H 06	MON ALTIMETER	60.00
3L 02	MON VERTICAL SPEED INDIC	60.00
2J 04	MON FLT PATH ACCEL INDIC	60.00
2J 09	MON FLT PATH ANGLE INDIC	60.00
2J 38	MONITOR LOCALIZER INDICATOR	60.00
2J 39	MON GLIDE SLOPE ATT INDIC	60.00
160865	DESCEND THRU -DECISION HEIGTH	
1P 11	MON VERBAL REPORT	0.60
ATOLN0	MONITOR AIRCRAFT ON FINAL APP	
2J 09	MON FLT PATH ANGLE INDIC	26.00
2J 44	MON EADI RNWY	26.00



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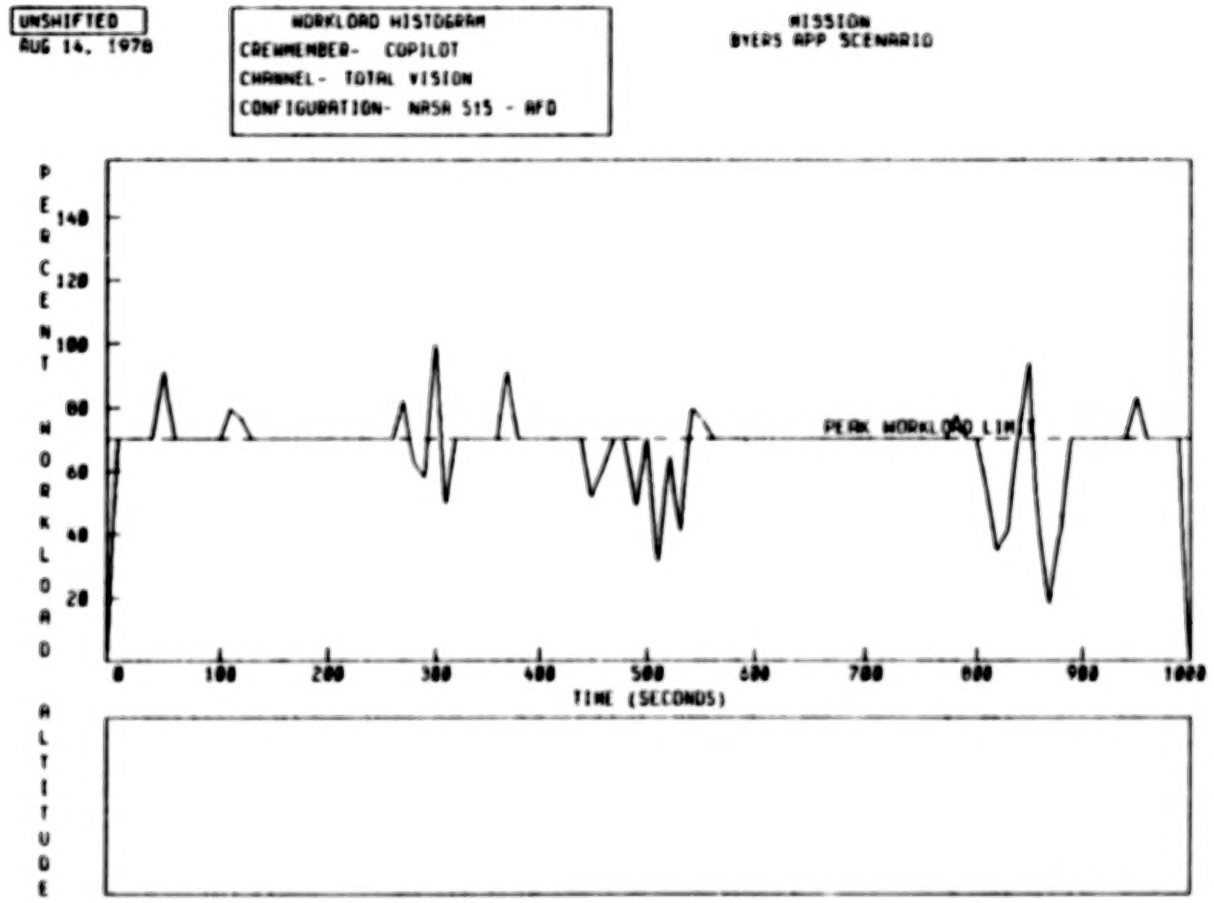
CODE		EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
2J	24	MON 100 FT INDIC ON EADI	2.27	
2J	41	MON EADI DRIFT INDIC	10.00	
4B	00	SET THRUST LEVERS TO IDLE	2.50	
3V	28	MON FLARE LT ON ANUN PANEL - GREEN	1.21	

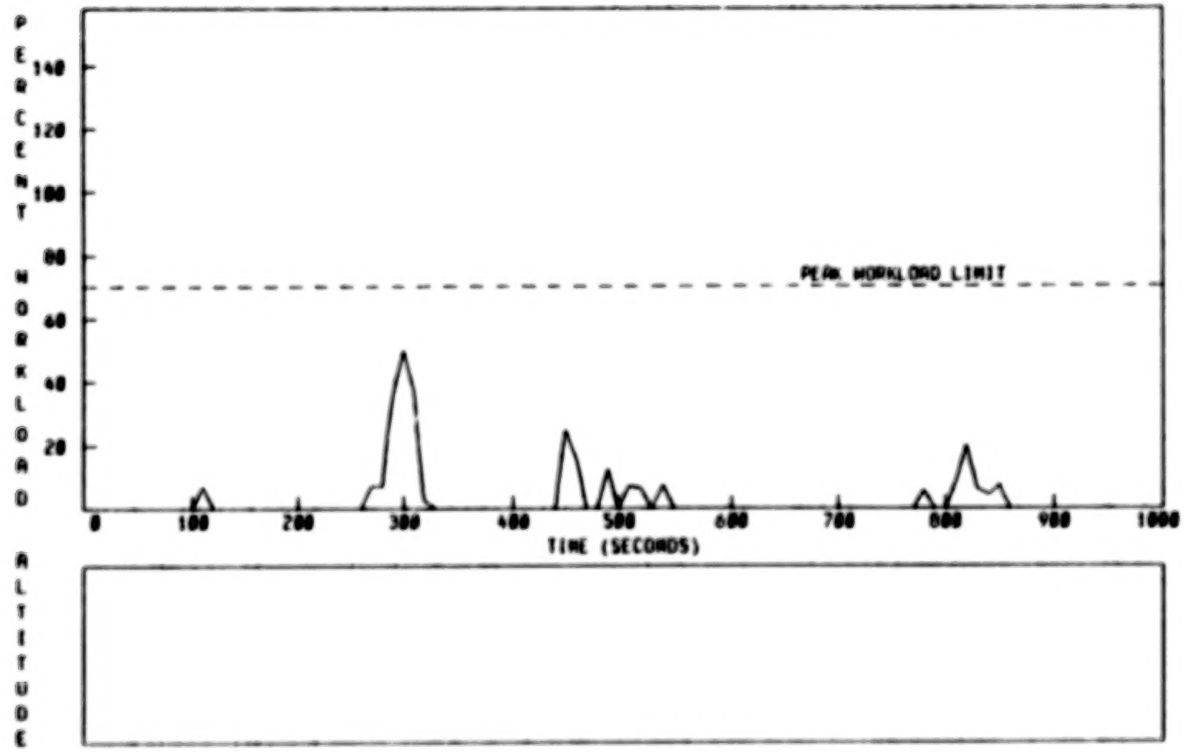
800. 850. 900. 950. 1000. 1050. 1100.

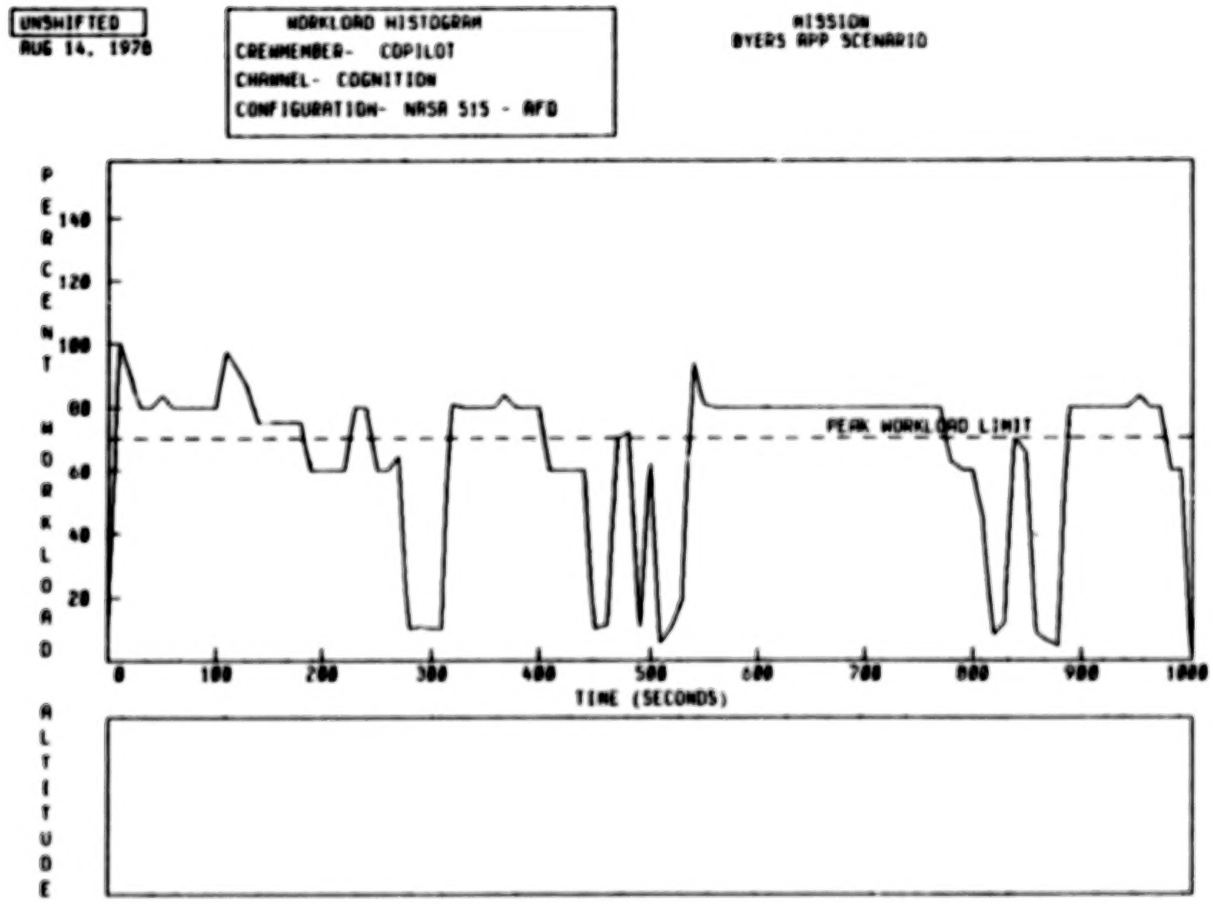

UNSHIFTED
AUG 14, 1978
WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- TOTAL VISION
CONFIGURATION- NASA 515 - AFD
MISSION
BYERS APP SCENARIO
PERCENT WORKLOAD
140
120
100
80
60
40
20
PEAK WORKLOAD LIMIT
0
100
200
300
400
500
600
700
800
900
1000
TIME (SECONDS)
ALTITUDE

UNSHIFTED
AUG 14, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- TOTAL MOTOR
CONFIGURATION- NASA 515 - AFD

MISSION
BYERS APP SCENARIO

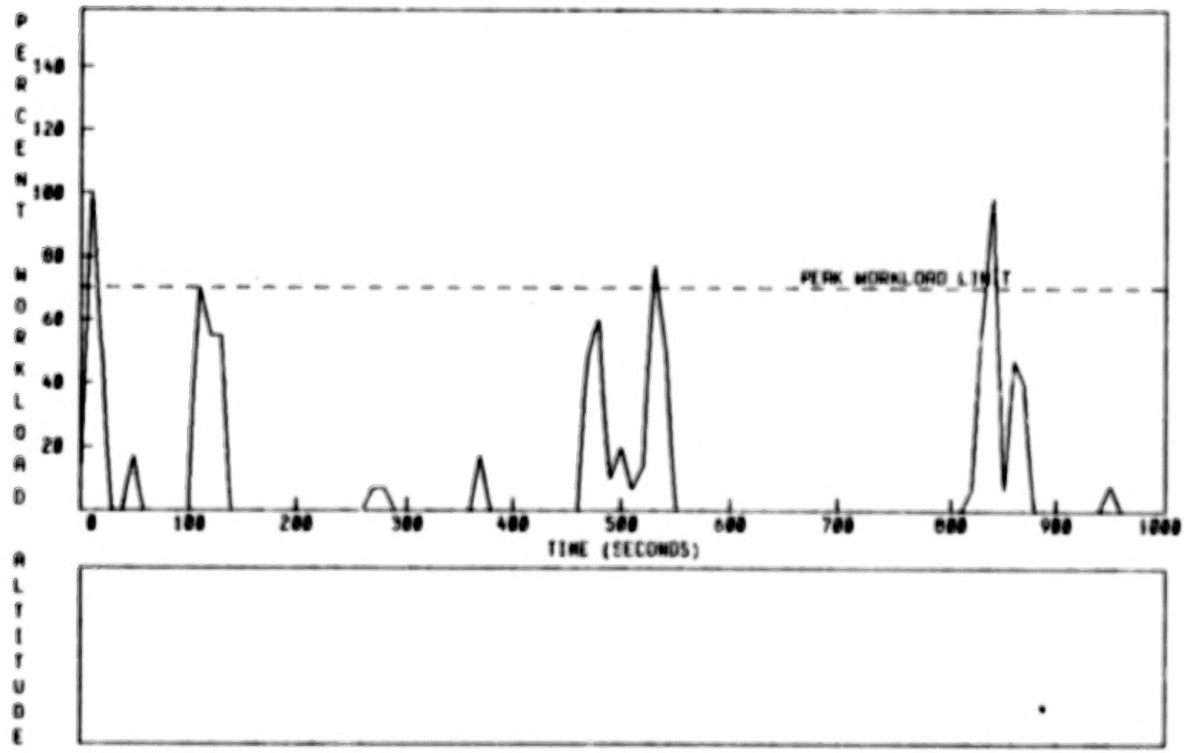



UNSHIFTED
AUG 14, 1978
WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- COGNITION
CONFIGURATION- NASA 515 - AFD
MISSION
BYERS APP SCENARIO
PERCENT WORKLOAD
140
120
100
80
60
40
20
PEAK WORKLOAD LIMIT
0
100
200
300
400
500
600
700
800
900
1000
TIME (SECONDS)
ALTITUDE

UNSHIFTED
AUG 14, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- TOTAL COMMUNICATION
CONFIGURATION- NPSA 515 - AFD

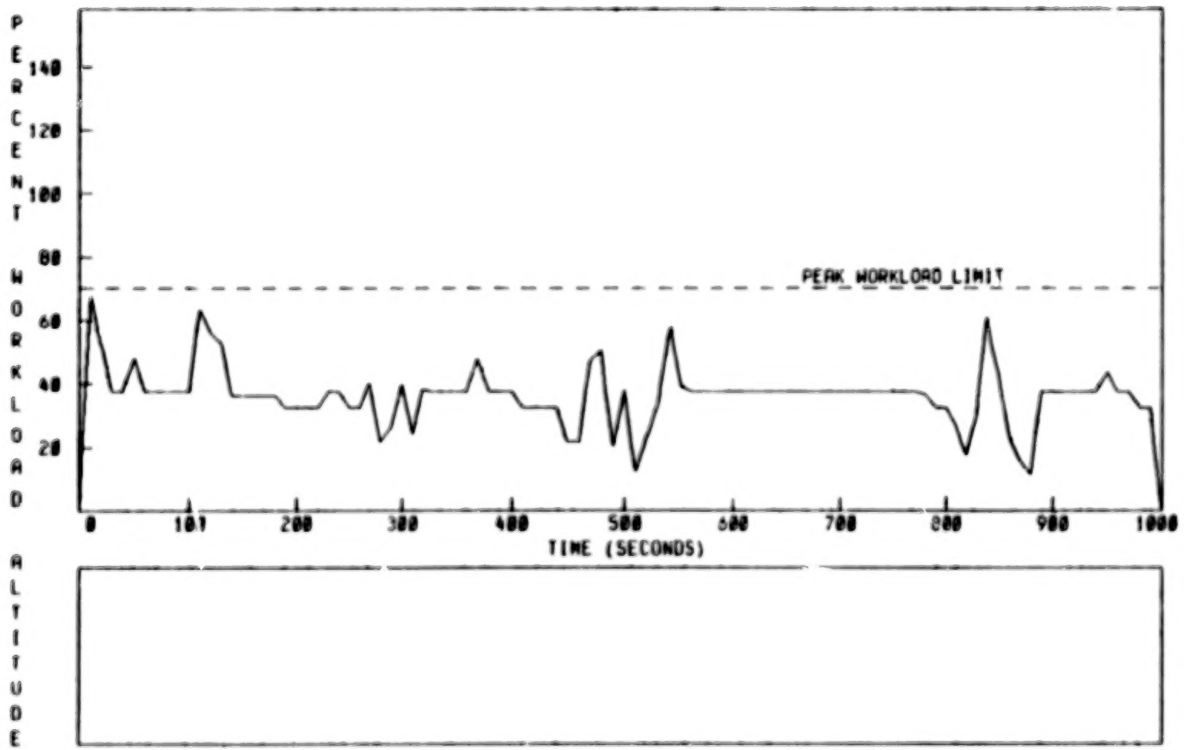
MISSION
BYERS APP SCENARIO

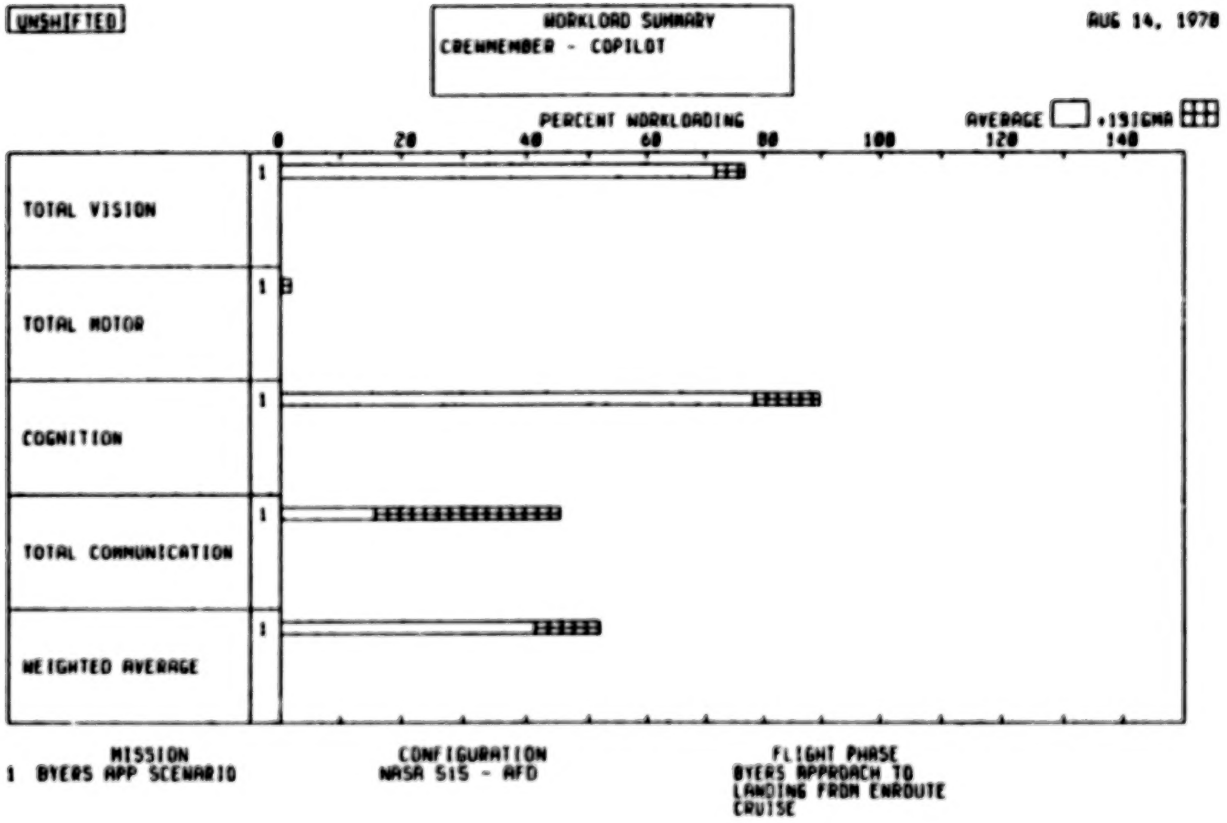


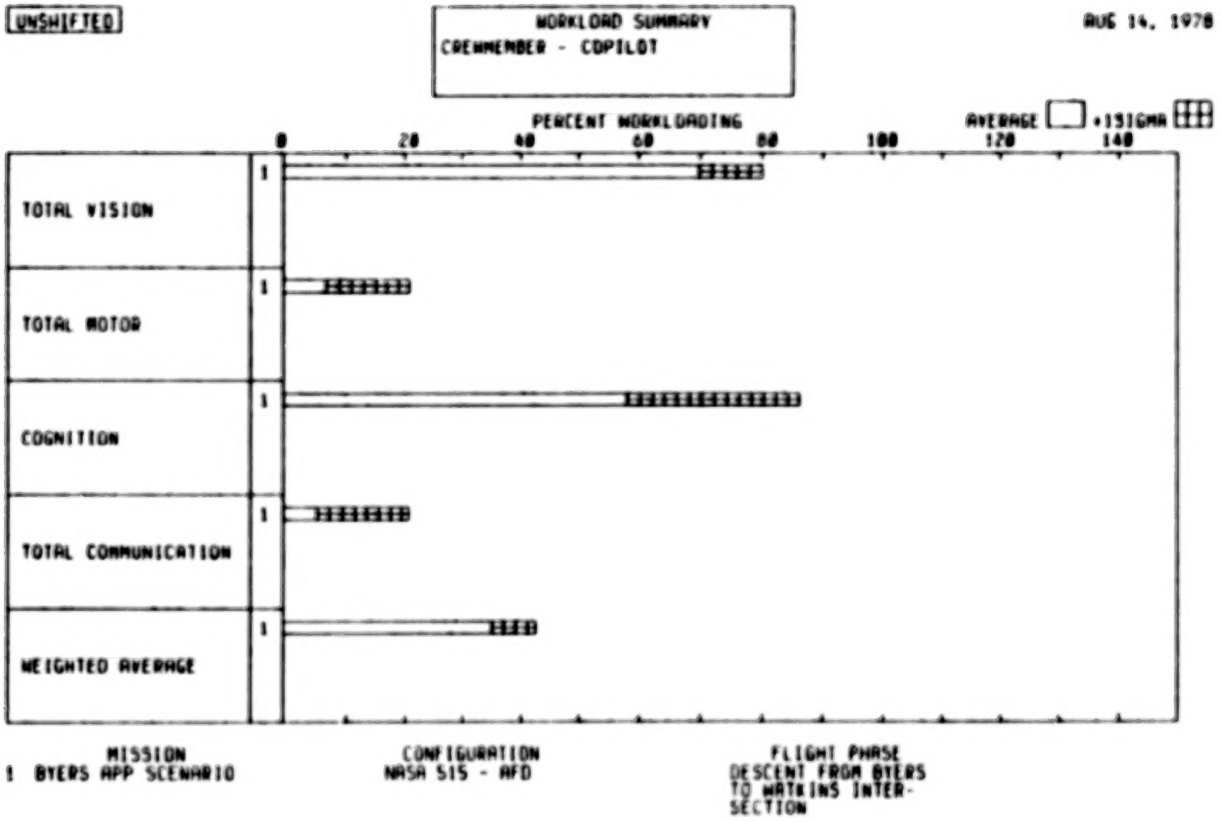
UNSHIFTED
AUG 14, 1978

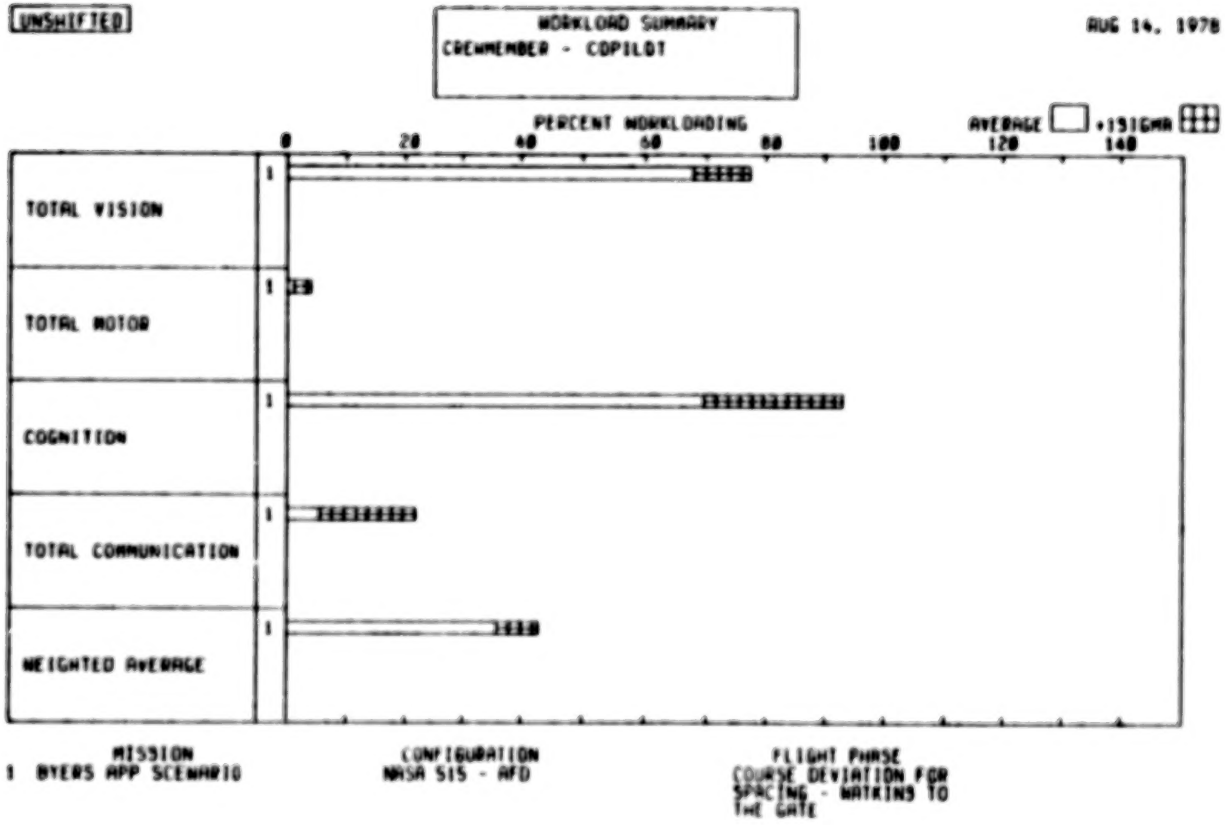
WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- WEIGHTED CHANNEL AVERAGE
CONFIGURATION- NASA 515 - AFD

MISSION
BYERS APP SCENARIO




UNSHIFTED
WORKLOAD SUMMARY
CREWMEMBER - COPILOT
AUG 14, 1978
PERCENT WORKLOADING
AVERAGE
+1SIGMA
0
20
40
60
80
100
120
140
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 BYERS APP SCENARIO
CONFIGURATION
NASA 515 - AFD
FLIGHT PHASE
BYERS APPROACH TO
LANDING FROM ENROUTE
CRUISE

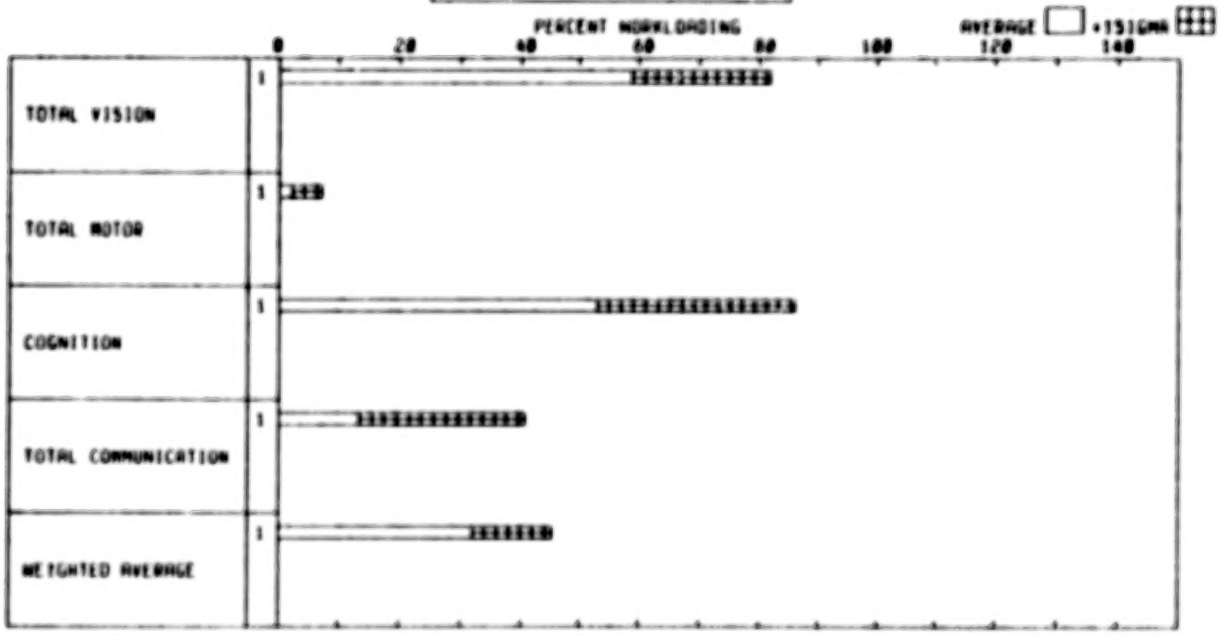

UNSHIFTED
WORKLOAD SUMMARY
CREWMEMBER - COPILOT
AUG 14, 1978
PERCENT WORKLOADING
AVERAGE
+1SIGMA
0
20
40
60
80
100
120
140
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 BYERS APP SCENARIO
CONFIGURATION
NASA 515 - AFD
FLIGHT PHASE
DESCENT FROM BYERS TO WATKINS INTER-SECTION


UNSHIFTED
WORKLOAD SUMMARY
CREWMEMBER - COPILOT
AUG 14, 1978
PERCENT WORKLOADING
AVERAGE
+1SIGMA
0
20
40
60
80
100
120
140
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 BYERS APP SCENARIO
CONFIGURATION
NASA 515 - AFD
FLIGHT PHASE
COURSE DEVIATION FOR SPACING - WATKINS TO THE GATE

UNSHIFTED

WORKLOAD SUMMARY
CREWMEMBER - COPILOT

• AUG 14, 1978



MISSION
1 BYERS APP SCENARIO

CONFIGURATION
NASA 515 - AFD

FLIGHT PHASE
FINAL APPROACH TO
FROM THE GATE THRU
TOUCHDOWN

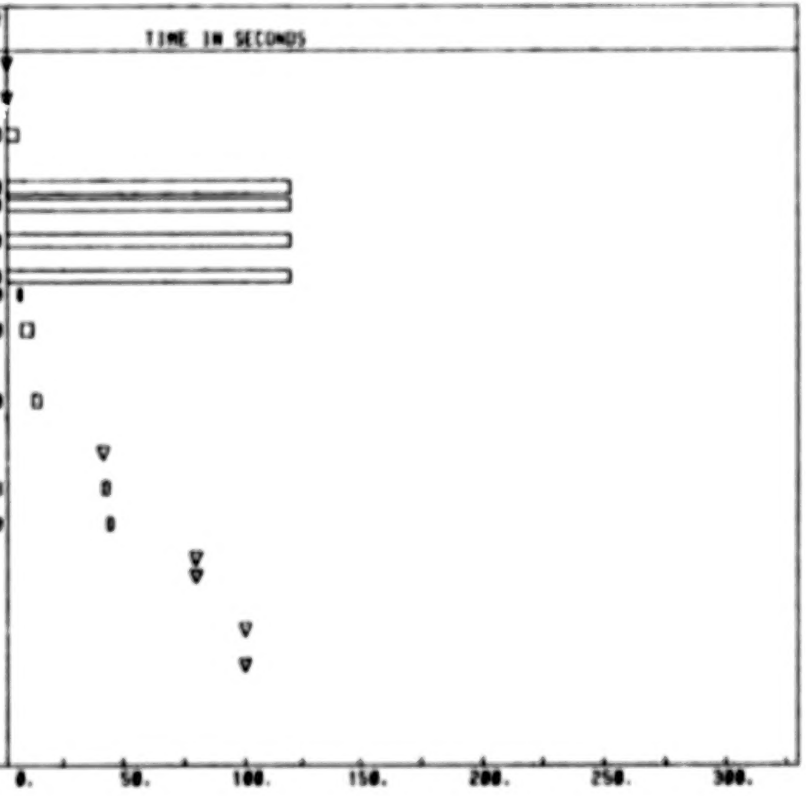
UNSHIFTED

MISSION TIMELINE
MISSION - BYERS APP SCENARIO

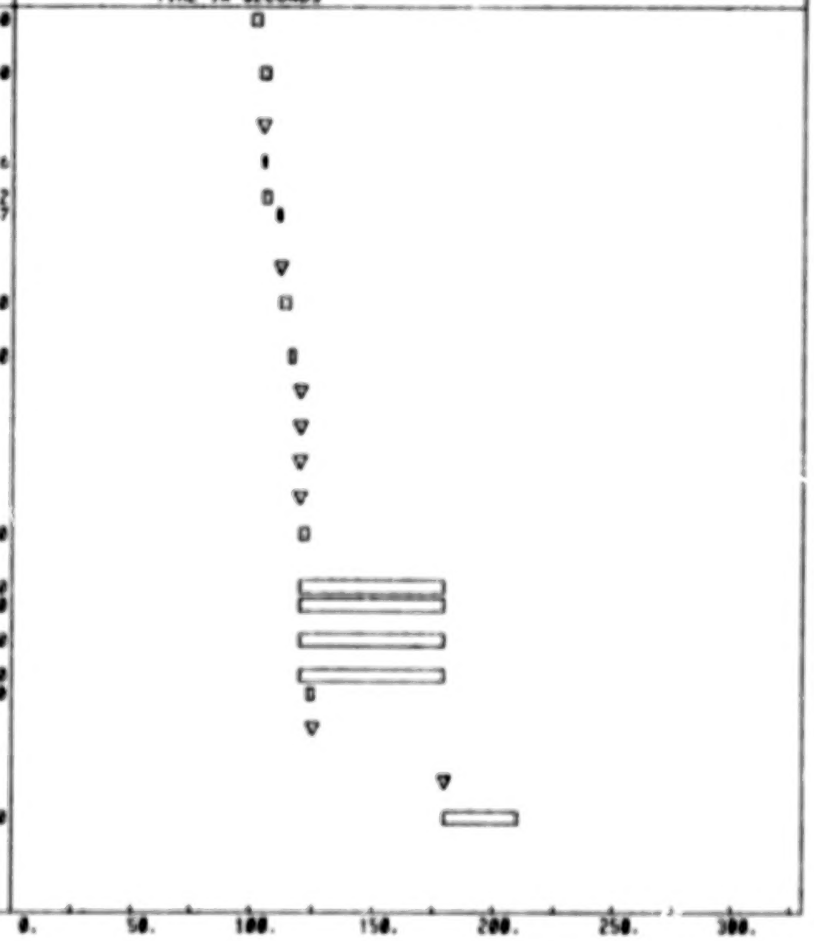
CONFIGURATION - NASA 515 - AFD
FLIGHT PHASE -BYERS APPROACH TO LANDING FROM ENROUTE CRUISE
CREWMEMBER - COPILOT

AUG 14, 1978

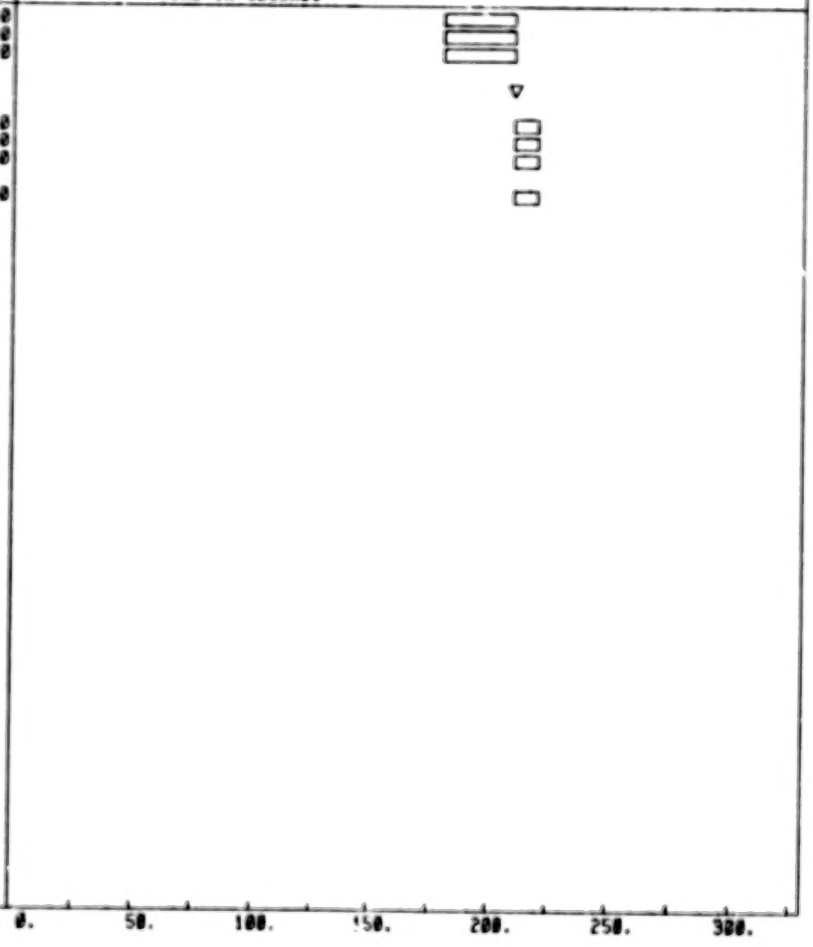
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
BYRZ01	START OF FLIGHT SCENARIO MESSAGE	
ISC120	FLIGHT INSTRUMENT SCAN - N	
1PBYRZ01	MON COM- UNITED 24, CONTACT DENVER APRCH ON 120.95	5.00
ZJ 43	MON EADI	120.00
5L 03	MON VERTICAL SPEED INDIC	120.00
3A 11	MONITOR AIRSPEED INDIC	120.00
ZK 15	MON EHSI DISPLAY	120.00
1PBYRZ02	RADIO - DENVER APRCH UNITED 24	1.50
1PBYRZ03	MON COM- UNITED 24, DENVER, PROCEED TO BYERS DESCEND AND MAINTAIN 13000	5.00
1PBYRZ04	RADIO - ROGER,UNITED 24 CLEARED TO BYERS AND 13000	3.50
140023	REPORT 13000 FT TO LEVEL OFF	
3H 02	MON CDRS BARO ALT INDIC	2.13
1P140045	CALL OUT -[1000 FEET TO LEVEL OFF]	1.70
BYRZ50 ALTCPT	UAL 24 REACHES 13000 PILOT MONITORS EADI-EHSI SYMBOLS FOR ALTITUDE CAPTURE	
BYRZ51	U 24 CLEARED FOR DESCENT	
BYRZ02	RECEIVE CLEARANCE TO 12000	



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TRSK DUR (SEC)	TIME IN SECONDS
1PBYRZ05	MON CALL- UNITED 24 DESCEND AND MAINTAIN 12000.	3.50	
1PBYRZ06	RADIO- ROGER UNITED 24 OUT OF 13000 FOR 12000.	3.50	
ALTZCH	ALTITUDE CHANGE PROC FOR 2D FLIGHT PATH		
3K 04	MON ALT ALERT BAND SET INDIC	0.76	
3K 03	SET ALT ALERT BAND	2.22	
2H 22	MONITOR FPA SEL MODE LT GREEN - FPA SEL MODE ENGAGED	0.77	
BYRZ03	RECEIVG CLEARANCE TO 11000		
1PBYRZ07	MON COMM- UNITED 24 DESCEND AND MAINTAIN 11000.	3.50	
1PBYRZ08	RADIO- ROGER UNITED 24 CLEARED TO 11000.	2.00	
BYRZ52	U 24 SPEED REDUCTION TO 250 KTS		
BYRZ71	U 24 ENDS DESCENT FOR SPEED REDUCTION		
ISC005	FLIGHT INSTRUMENT SCAN - F		
BYRZ04	RECEIVG SPEED REDUCTION TO 250 KTS		
1PBYRZ09	MON COMM- UNITED 24 REDUCE SPEED TO 250 KNOTS.	3.00	
2J 42	MON EADI	60.00	
3L 02	MON VERTICAL SPEED INDIC	60.00	
3A 10	MONITOR AIRSPEED INDIC	60.00	
2K 15	MON EHSI DISPLAY	60.00	
1PBYRZ10	RADIO- UNITED 24, ROGER, SLOW TO 250	2.50	
ALTCPT	PILOT MONITORS EADI-EHSI SYMBOLS FOR ALTITUDE CAPTURE		
ISC305	FLIGHT INSTRUMENT SCAN - E		
3A 10	MONITOR AIRSPEED INDIC	30.00	



CODE		EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
2K	14	MON EHSI DISPLAY	30.00
2J	42	MON EADI	30.00
3L	02	MON VERTICAL SPEED INDIC	30.00
ISC105		FLIGHT INSTRUMENT SCAN - B	
2K	14	MON EHSI DISPLAY	10.00
2J	42	MON EADI	10.00
3L	02	MON VERTICAL SPEED INDIC	10.00
3A	10	MONITOR AIRSPEED INDIC	10.00



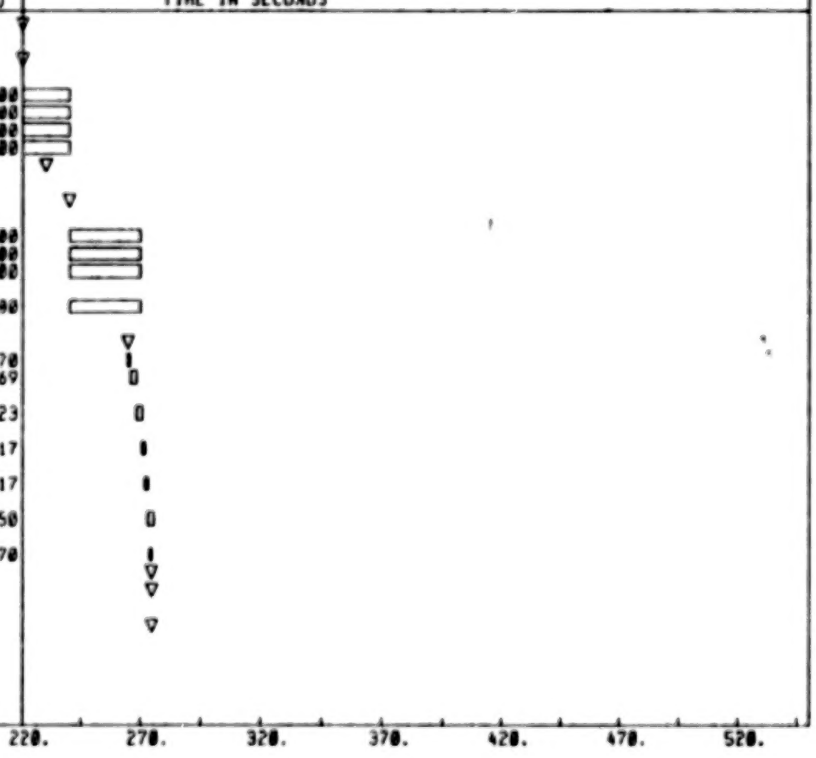
UNSHIFTED

MISSION TIMELINE
MISSION - BYERS APP SCENARIO

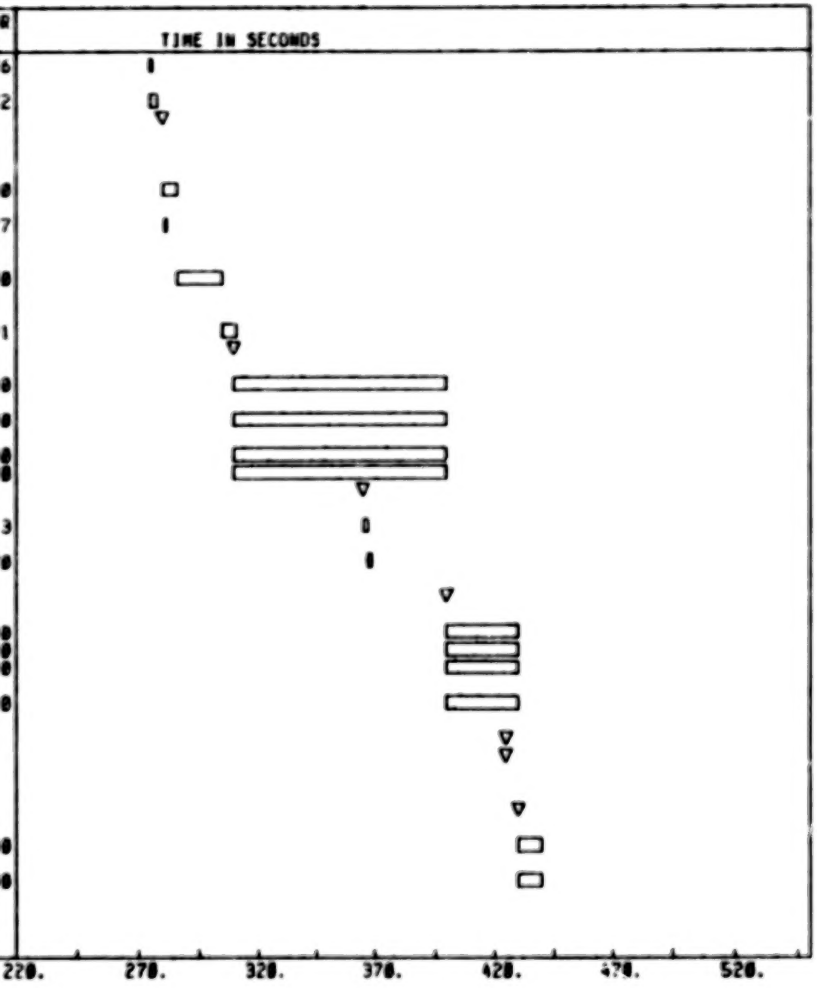
CONFIGURATION - NASA 515 - AFD
FLIGHT PHASE -DESCENT FROM BYERS TO WATKINS INTER-SECTION
CREWMEMBER - COPILOT

AUG 14, 1978

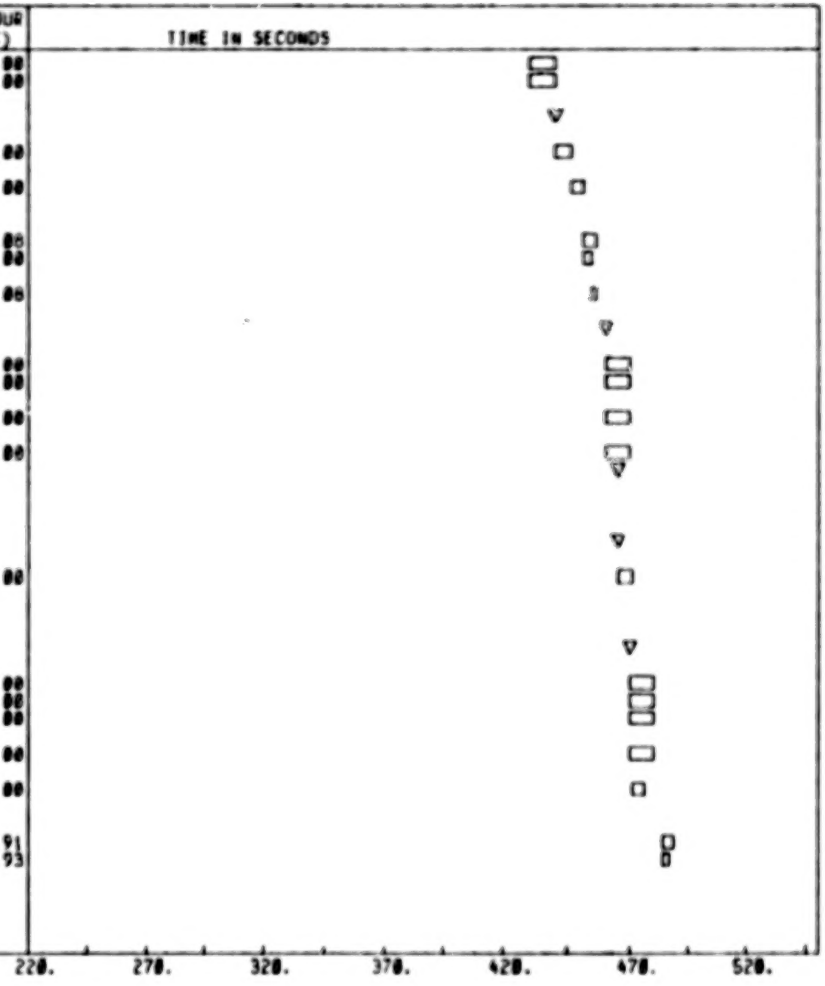
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
BYRZ53	U 24 SPEED REDUCTION TO 200 KTS	
ISC205	FLIGHT INSTRUMENT SCAN - D	
2J 43	MON EADI	20.00
5L 04	MON IVSI INDIC	20.00
3A 14	MON AIRSPEED INDIC	20.00
2K 16	MON EHSI DISPLAY	20.00
BYRZ54	U 24 CROSSES BYERS INTERSECTION < 11000	
ISC305	FLIGHT INSTRUMENT SCAN - E	
2K 14	MON EHSI DISPLAY	30.00
2J 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
160011	SET FLAPS TO FLAPS 1	
1P 10	MON VERBAL REPORT	0.70
4E 07	SET FLAP CONT LEVER TO FLAPS 1	2.69
4E 15	MONITOR FLAP POSITION INDICATOR	2.23
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50
1P160058	CALL OUT -[FLAPS 1]	0.70
BYRZ61	U 24 REACHS 200 KTS	
BYRZ55	U 24 BEGINS STAR DESCENT TO 8000	
ALT2CH	ALTATUDE CHANGE PROC FOR 2D FLIGHT PATH	



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
5K 04	MON ALT ALERT BARO SET INDIC	0.76
3K 03	SET ALT ALERT BARO	2.72
RVUDAT	CREWMEMBER REVIEWS CHARTS/APPROACH DATA FOR NAV INFORMATIN THRU TOUCHDOWN	
8B 06	RETREIVE CHARTS APPROACH PLATES	6.00
2H 22	MONITOR FPA SEL MODE LT GREEN - FPA SEL MODE ENGAGED	0.77
8B160803	REVIEW CHARTS/PLATES TO DETERMINE NAVAID APP FREQS	19.00
8B 07	STOW CHARTS	5.91
ISC9E5	FLIGHT INSTRUMENT SCAN - G	
3L 03	MON VERTICAL SPEED INDIC	90.00
3A 11	MONITOR AIRSPEED INDIC	90.00
2K 15	MON EWSI DISPLAY	90.00
2J 43	MON EADI	90.00
140023	REPORT 1000 FT TO LEVEL OFF	
3H 02	MON CORR BARO ALT INDIC	2.13
1P140045	CALL OUT -(1000 FEET TO LEVEL OFF)	1.70
ISC3E5	FLIGHT INSTRUMENT SCAN - E	
2K 14	MON EWSI DISPLAY	30.00
2J 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
BYRZ67	U 24 REACHES 8000	
ALTCPT	PILOT MONITORS EADI-ESHI SYMBOLS FOR ALTITUDE CAPTURE	
ISC1E5	FLIGHT INSTRUMENT SCAN - B	
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EWSI DISPLAY	10.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
170007	TUNE NAV RADIOS FOR MLS APPROACH.	
08 06	RETREIVE CHARTS APPROACH PLATES	6.00
08160003	REVIEW CHARTS/PLATES TO DETERMINE NAVAID APP FREQS	5.00
5U 01	MON NAV-1 FREQ INDIC	5.00
5U 02	SET NAV-1 FREQ - WHOLE NO.S	3.00
5U 03	SET NAV-1 FREQ - FRACTIONS	2.00
15C105	FLIGHT INSTRUMENT SCAN - B	
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
BYRZ70	U 24 CROSS WATKINS < 200 KTS < 8000, RECEIVE METER/SPACING INSTRUCTIONS	
BYRZ07	RECEIVE METER/SPACE INSTRUCTIONS	
1PBYRZ16	MSG- UNITED 24 TURN RIGHT HEADING 350 REDUCE TO APPROACH SPEED (150KTS)	6.00
15C105	FLIGHT INSTRUMENT SCAN - B	
2K 14	MON EHSI DISPLAY	10.00
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
1PBYRZ17	RADIO- UNITED 24, ROGER, RIGHT TO 350 SLOW TO APPROACH SPD	5.00
5V 01	MON NAV-2 FREQ INDIC	4.91
5V 02	SET NAV-2 FREQ - WHOLE NO.S	2.93



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME in SECONDS
Sv 03	SET NAV-2 FREQ - FUNCTIONS	1.90	0
1P170026	CALL OUT -[ENNY MLS FREQ ON NAV 1 AND NAV 2]	3.00	0

220. 270. 320. 370. 420. 470. 520.

UNSHIPTED

MISSION TIMELINE
MISSION - BYERS APP SCENARIO

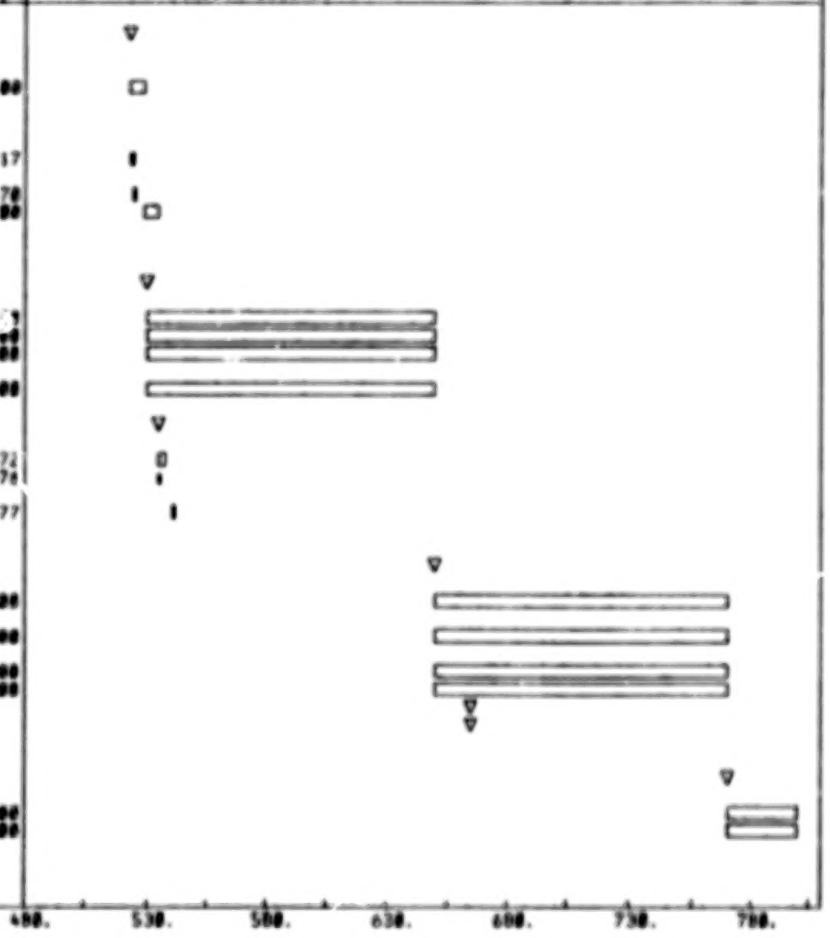
CONFIGURATION - NASA 515 - AFB
FLIGHT PHASE -COURSE DEVIATION FDN
SPACING - WATKINS TO
THE GATE
CREWMEMBER - COPILOT

AUG 14, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
ISC105	FLIGHT INSTRUMENT SCAN - B		
2J 42	MON EADI	10.00	
5L 02	MON VERTICAL SPEED INDIC	10.00	
3A 10	MONITOR AIRSPEED INDIC	10.00	
2K 14	MON EHSI DISPLAY	10.00	
BYB263	SET FLAPS TO POS 5		
160017	SET FLAPS TO FLAPS 5		
160018	FLAP SET PROCEDURE		
1P 10	MON VERBAL REPORT	0.70	
4E 09	SET FLAP CONT LEVER TO FLAPS 5	2.69	
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17	
4E 15	MONITOR FLAP POSITION INDICATOR	2.23	
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50	
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17	
1P160061	CALL OUT -(FLAPS 5)	0.70	
160025	SET FLAPS TO FLAPS 15		
160018	FLAP SET PROCEDURE		
1P 10	MON VERBAL REPORT	0.70	
4E 11	SET FLAP CONT LEVER TO FLAPS 15	2.46	
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17	
4E 15	MONITOR FLAP POSITION INDICATOR	2.23	
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50	

480. 530. 580. 630. 680. 730. 780.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
BYRZ00	RECEIVE INSTRUCTIONS TO PROCEED DIRECT TO THE GATE	
1PBYRZ10	MSG- UNITED 24, CLEARED DIRECT TO APRCH GATE, CONTACT TOWER AT GM 120.0	6.00
4N 04	MON LE FLAP2-IN-[WARN]T LT OFF	1.17
1P160002	CALL OUT -[FLAPS 15]	0.70
1PBYRZ19	RADIO- ROGER UNITED 24 CLEARED DIRECT TO THE GATE, TOWER AT GM 120.0	6.00
ISC120	FLIGHT INSTRUMENT SCAN - M	
2K 15	MON EHSI DISPLAY	120.00
2J 43	MON ERDI	120.00
3L 03	MON VERTICAL SPEED INDIC	120.00
3A 11	MONITOR AIRSPEED INDIC	120.00
ALTZCH	ALTITUDE CHANGE PROC FOR 2D FLIGHT PATH	
3K 03	SET ALT ALERT BARO	2.22
3K 04	MON ALT ALERT BARO SET INDIC	0.76
2H 22	MONITOR FPA SEL MODE LT GREEN - FPA SEL MODE ENGAGED	0.77
ISC120	FLIGHT INSTRUMENT SCAN - M	
3L 03	MON VERTICAL SPEED INDIC	120.00
3A 11	MONITOR AIRSPEED INDIC	120.00
2K 15	MON EHSI DISPLAY	120.00
2J 43	MON ERDI	120.00
BYRZ69	* 2A REACHES 6500	
ALTCPT	PILOT MONITORS [ADI-EHSI] SYMBOLS FOR ALTITUDE CAPTURE	
ISC305	FLIGHT INSTRUMENT SCAN - P	
2J 42	MON ERDI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00



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	Total Motor	52 2/B3 76 2/E9
	Cognition	53 2/B5 77 2/E11
	Total Communications	54 2/B7 78 2/E13
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	Total Motor	99	3/B3	129	3/F7
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	Total Vision	1654/D13	195 5/B7
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CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14 16 00 45	MON EHSI DISPLAY ANNUNCIATOR RECALL	30.00
7A 28	ACTUATE ANNUN PNL RECALL SW	2.28
7A 36 15 C0 55	MON ALL ANNUN LTS FLIGHT INSTRUMENT SCAN - A	8.53
3A 10	MONITOR AIRSPEED INDIC	5.00
2K 16	MON EHSI DISPLAY	5.00
2J 42	MON EADI	5.00
9L 02	MON VERTICAL SPEED INDIC	5.00

TIME IN SECONDS

400. 530. 580. 630. 680. 730. 780.

UNSHIFTED

MISSION TIMELINE
MISSION - BYERS APP SCENARIO

CONFIGURATION - NASA 515 - AFD
FLIGHT PHASE - FINAL APPROACH TO
FROM THE GATE THRU
TOUCHDOWN
CREWMEMBER - COPILOT

AUG 14, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
BYRZ50	U 24 CROSSES GATE AT 6500 AND 150 KTS. SLOWS TO 120KTS. FLAPS ON SCHED		▽
160060	EXTEND LANDING GEAR		▽
4D 03	SET LANDING GEAR LEVER TO DOWN POSITION	3.27	▯
4D 05	MONITOR NOSE GEAR DOWN AND LOCKED LT ON	0.54	▮
4D 09	MONITOR LEFT/RT GEAR DOWN AND LOCKED LT ON	0.54	▮
160053	SET FLAPS TO FLAPS 25		▽
160010	FLAP SET PROCEDURE		▽
LNDCLR	CONTACT TOWER FOR FINAL LANDING CLEARANCE		▽
1P 10	MON VERBAL REPORT	0.70	▮
1B 05	SET VHF-2 COMM TFR SW TO LEFT	2.39	▯
4E 12	SET FLAP CONT LEVER TO FLAPS 25	2.90	▯
1B 17	COMM VIA VHF-2	5.00	□
1B 25	ACT PUSH-TO-TALK SW ON CONTROL HANDGRIP	5.00	□
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17	▮
4E 15	MONITOR FLAP POSITION INDICATOR	2.23	▯
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50	▯

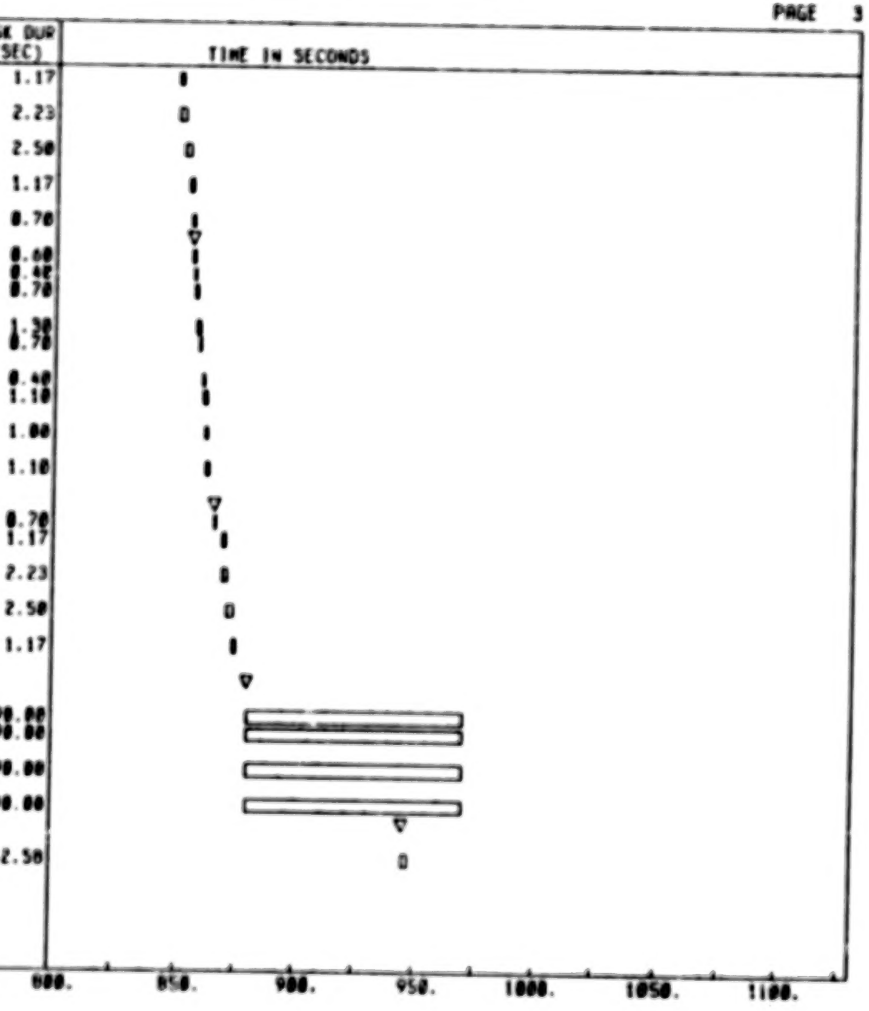
800. 850. 900. 950. 1000. 1050. 1100.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
1PLNDCL2	RADIO COMM-[DENVER TOWER, THIS IS U 24 OVER THE GATE INBOUND FOR LNDNG	4.00
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17
1P160070	CALL OUT -[FLAPS 25]	0.70
1PLNDCL3	ZERO EIGHT, OVER]	1.00
1B 19	MON VHF-2 COMM AUDIO	7.00
1PLNDCL4	MON RADIO COMM - [UNITED 24, DENVER TOWER, ROGER, CLEAR TO LAND RUNWAY TWO	4.00
ISC105	FLIGHT INSTRUMENT SCAN - B	
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
2J 42	MON EADI	10.00
1PLNDCL5	SIX WIND TWO ONE ZERO DEGREES AT ZERO NINER.]	3.00
1B 15	COMM VIA VHF-2	1.70
1PLNDCL1	RADIO COMM - [U24, ROGER]	1.70
1B 29	ACTUATE COMM 2 PUSH-TO-TALK SW	1.70
160059	CROSS WAY XX OUTER MARKER	
1P 13	MON VERBAL REPORT	1.80
ISC105	FLIGHT INSTRUMENT SCAN - B	
2K 14	MON EHSI DISPLAY	10.00
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
160057	SET FLAPS TO FLAPS 40	
160010	FLAP SET PROCEDURE	
1P 10	MON VERBAL REPORT	0.70
4E 14	SET FLAP CONT LEVER TO FLAPS 40	2.92

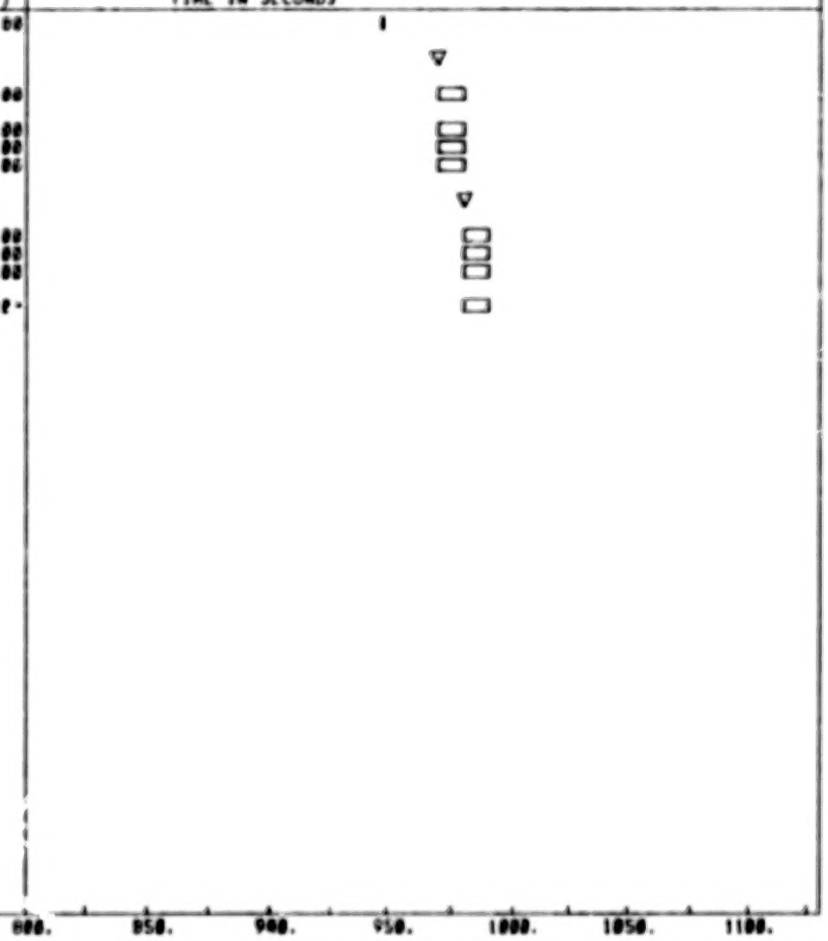
TIME IN SECONDS

800. 850. 900. 950. 1000. 1050. 1100.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17
4E 15	MONITOR FLAP POSITION INDICATOR	2.23
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17
1P160073 160062	CALL OUT -[FLAPS 40] LANDING CHECKLIST	0.70
1P160076	CALL OUT -[RECALL]	0.60
1P160077	CALL OUT -[CHECKED]	0.40
1P160078	CALL OUT -[SPEED BRAKES]	0.70
1P 02	MON VERBAL REPORT	1.30
1P160080	CALL OUT -[LANDING GEAR]	0.70
1P160082	CALL OUT -[FLAPS]	0.40
1P160083	CALL OUT -[FORTY, GREEN LIGHT]	1.10
1P160081	CALL OUT -[DOWN, THREE GREEN]	1.00
1P160084	CALL OUT -[CHECKLIST COMPLETE]	1.10
160018	FLAP SET PROCEDURE	
1P 10	MON VERBAL REPORT	0.70
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17
4E 15	MONITOR FLAP POSITION INDICATOR	2.23
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17
ISC905	FLIGHT INSTRUMENT SCAN - G	
2J 43	MON EADI	90.00
3L 03	MON VERTICAL SPEED INDIC	90.00
3A 11	MONITOR AIRSPEED INDIC	90.00
2K 15 160065	MON EHSI DISPLAY DESCEND THRU -DECISION HEIGTH	90.00
3R 12	MON DECISION HGT LT ON FDI	2.50



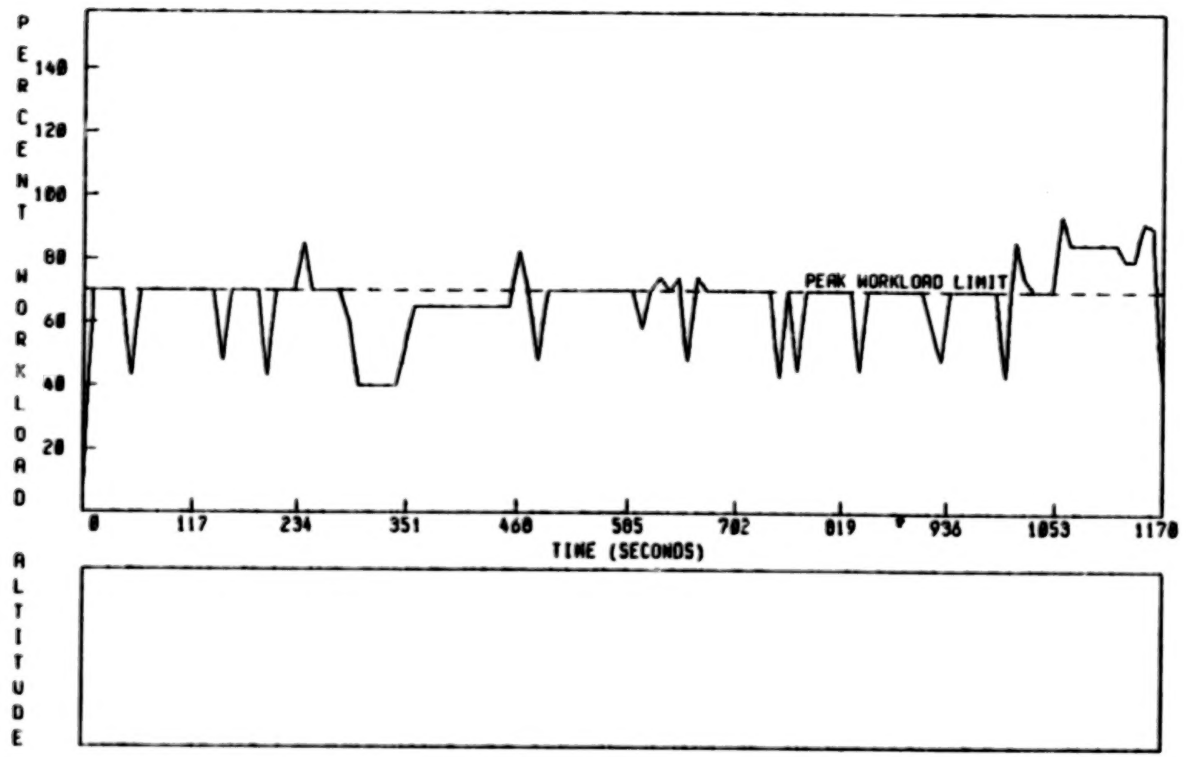
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
IP160000	CALL OUT -(DECISION HEIGHT)	0.00
ISC105	FLIGHT INSTRUMENT SCAN - 0	
9A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
2J 42	MON EADI	10.00
5L 02	MON VERTICAL SPEED INDIC	10.00
ISC105	FLIGHT INSTRUMENT SCAN - 0	
2K 14	MON EHSI DISPLAY	10.00
2J 42	MON EADI	10.00
5L 02	MON VERTICAL SPEED INDIC	10.00
9A 10	MONITOR AIRSPEED INDIC	10.00



UNSHIFTED
OCT 19, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- TOTAL VISION
CONFIGURATION- AFO SIM DATA

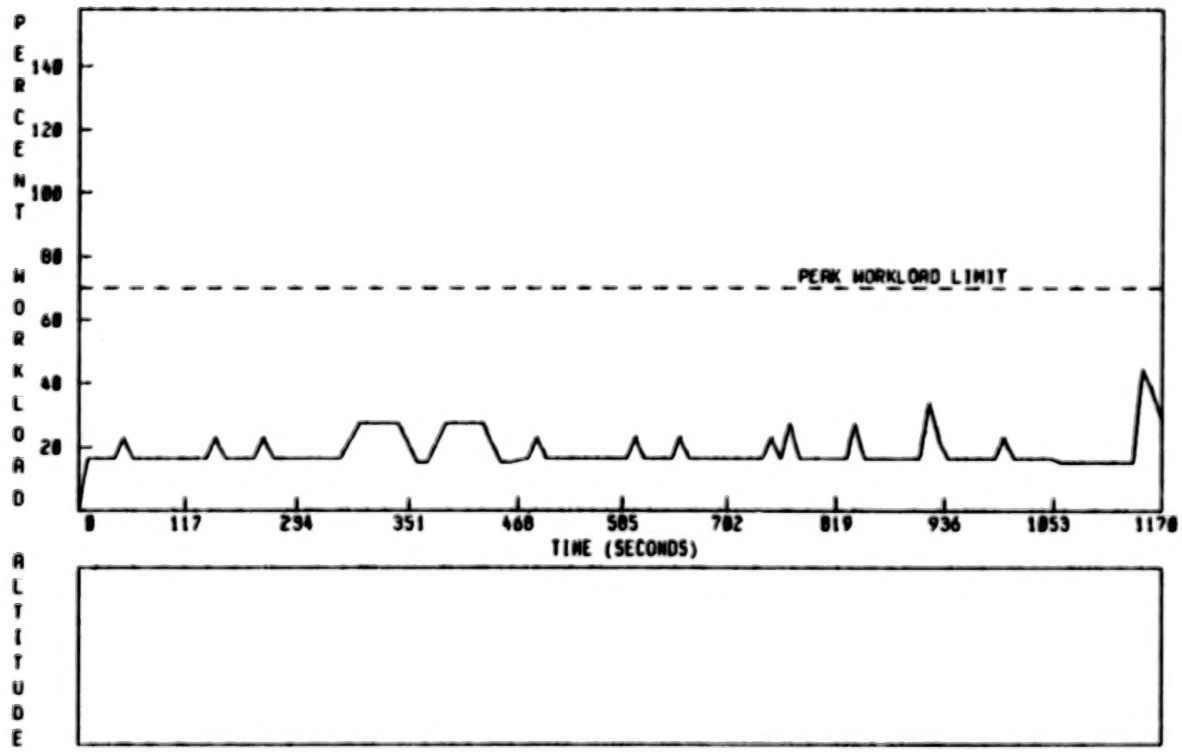
MISSION
DENVER LMNTNC APP/LN
WITH HOLDING PTTN -



UNSHIFTED
OCT 19, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- TOTAL MOTOR
CONFIGURATION- AFD SIM DATA

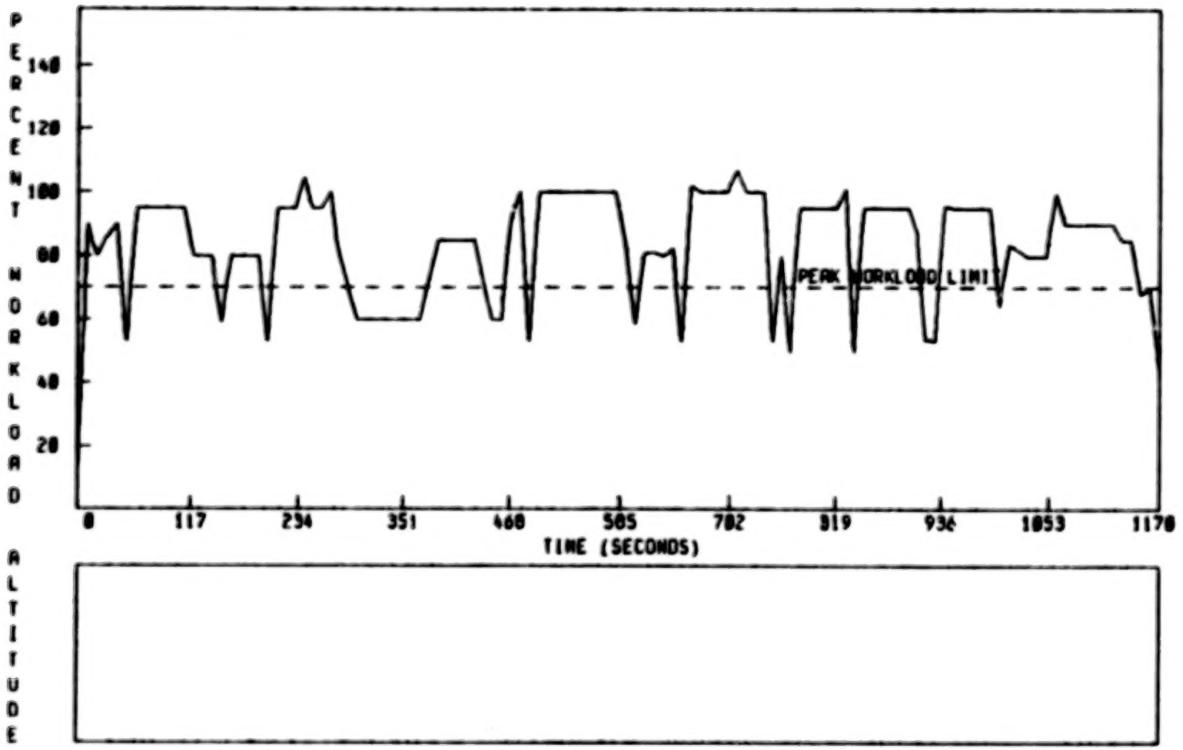
MISSION
DENVER LANTMC APP/LN
WITH HOLDING PTTN -

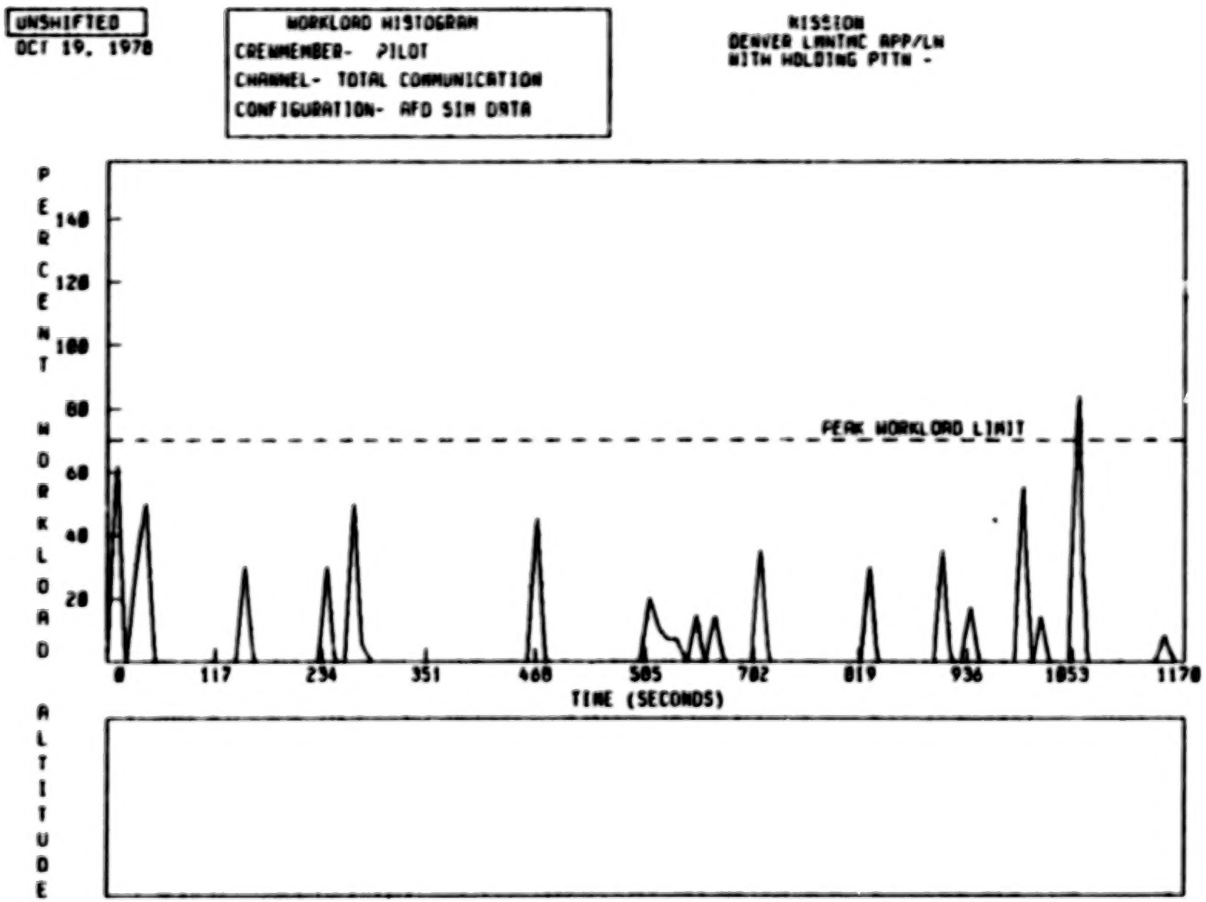


UNSHIFTED
OCT 19, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- COGNITION
CONFIGURATION- AFD SIM DATA

MISSION
DENVER LANTNC APP/LN
WITH HOLDING PTTN -

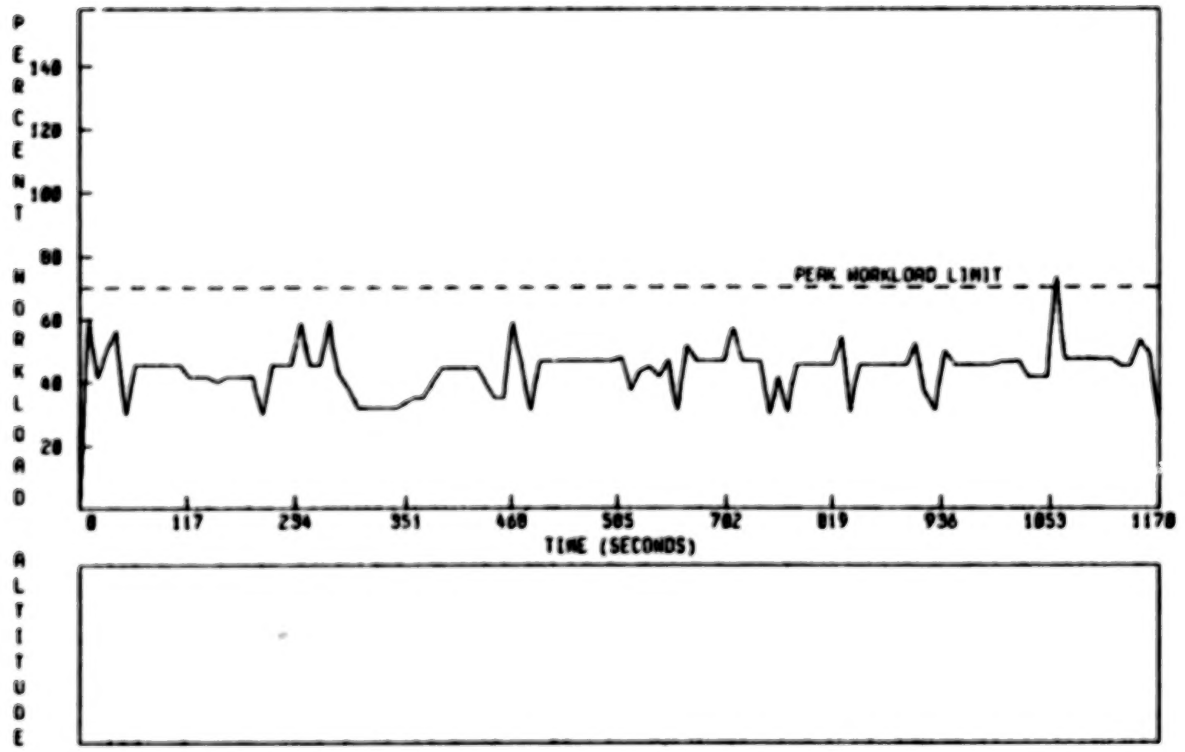



UNSHIFTED
OCT 19, 1978
WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- TOTAL COMMUNICATION
CONFIGURATION- AFD SIM DATA
MISSION
DENVER LANTAC APP/LN
WITH HOLDING PTTN -
PERCENT WORKLOAD
140
120
100
80
60
40
20
PEAK WORKLOAD LIMIT
0
117
234
351
468
585
702
819
936
1053
1170
TIME (SECONDS)
ALTITUDE

UNSHIFTED
OCT 19, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- WEIGHTED CHANNEL AVERAGE
CONFIGURATION- AFD SIM DATA

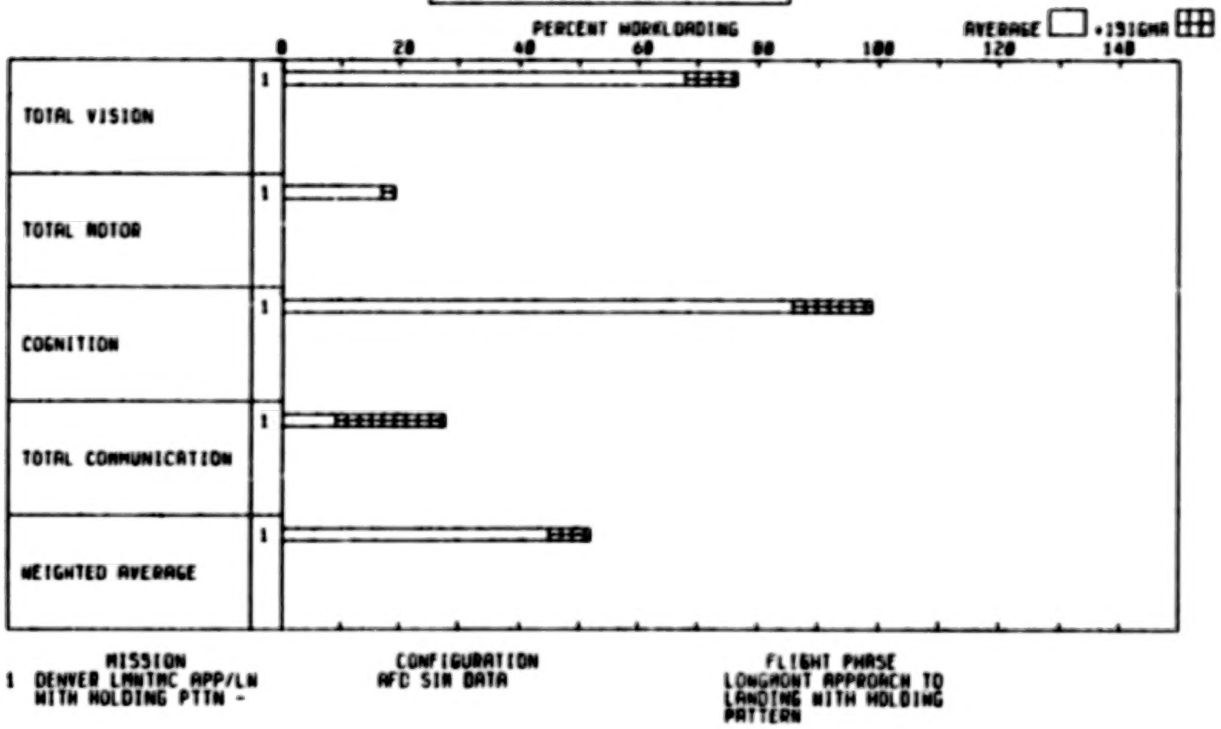
MISSION
DENVER LANTAC APP/LN
WITH HOLDING PTTN -



UNSHIFTED

WORKLOAD SUMMARY
CREWMEMBER - PILOT

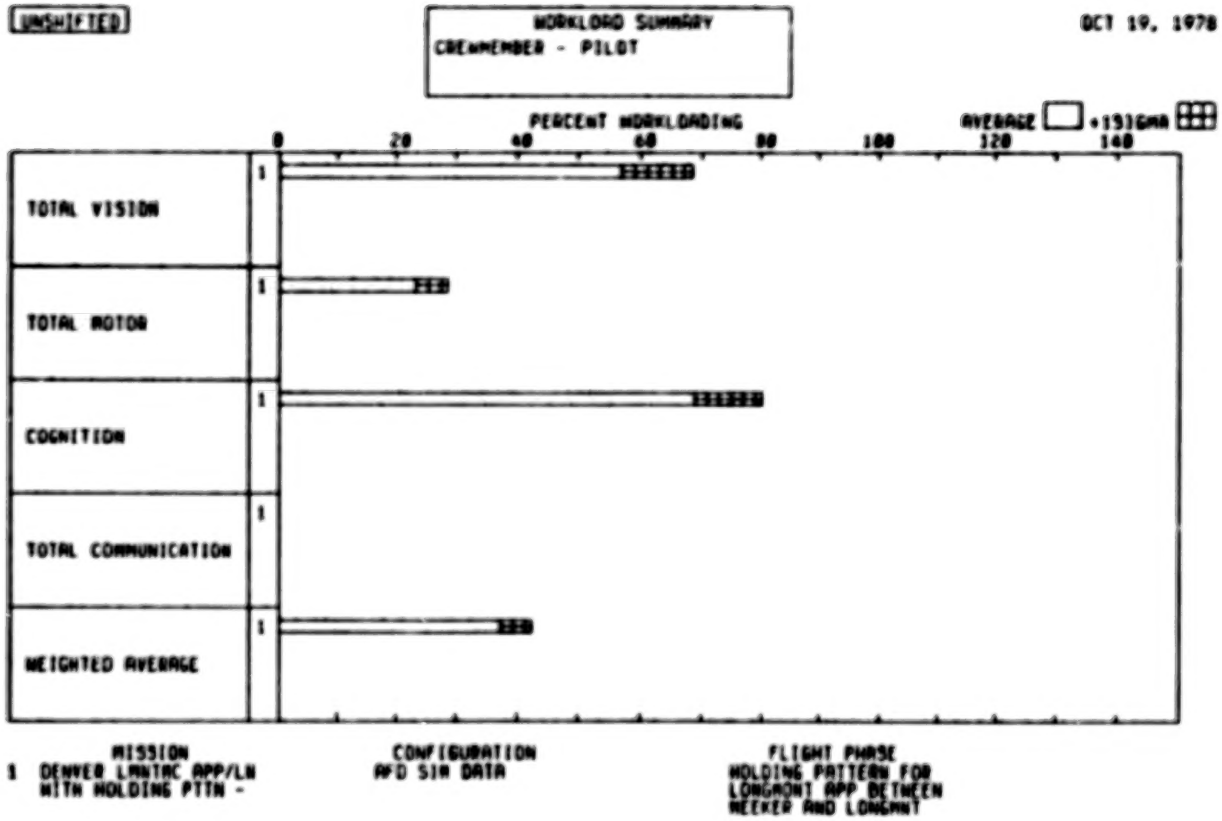
OCT 19, 1978

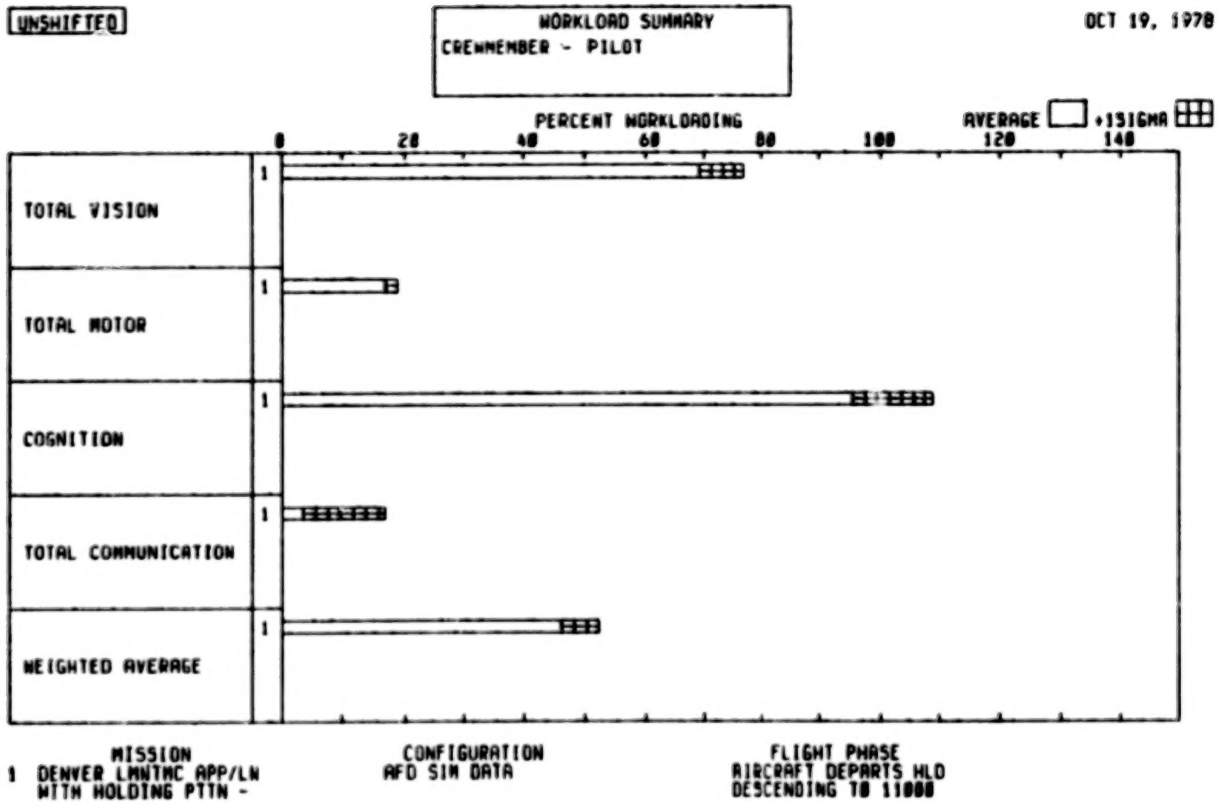


MISSION
1 DENVER LMNTAC APP/LN WITH HOLDING PTTN -

CONFIGURATION
AFD SIM DATA

FLIGHT PHASE
LONGAPT APPROACH TO LANDING WITH HOLDING PATTERN

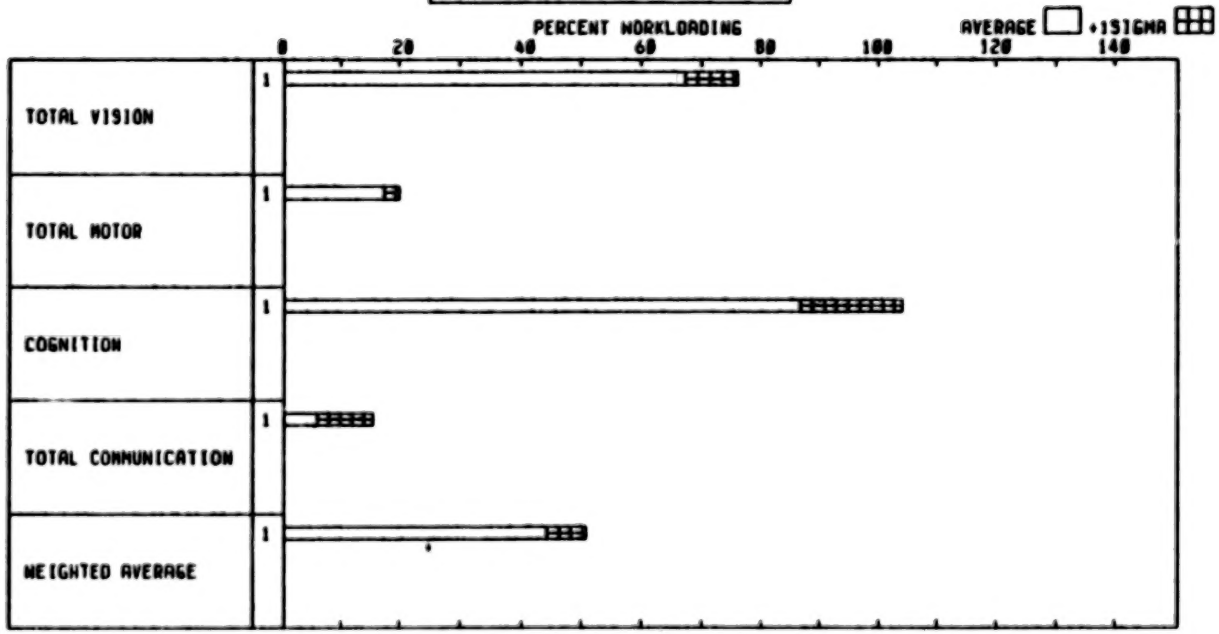

UNSHIFTED
WORKLOAD SUMMARY
CREWMEMBER - PILOT
OCT 19, 1978
PERCENT WORKLOADING
0
20
40
60
80
100
120
140
AVERAGE
+1SIGMA
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 DENVER LAWTAC APP/LN WITH HOLDING PTTN -
CONFIGURATION
AFD SIM DATA
FLIGHT PHASE
HOLDING PATTERN FOR LONGMNT APP BETWEEN MEEKER AND LONGMNT


UNSHIFTED
WORKLOAD SUMMARY
CREWMEMBER - PILOT
OCT 19, 1978
PERCENT WORKLOADING
AVERAGE
+1SIGMA
0
20
40
60
80
100
120
140
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 DENVER LNNTMC APP/LN
WITH HOLDING PTTN -
CONFIGURATION
AFD SIM DATA
FLIGHT PHASE
AIRCRAFT DEPARTS HLD
DESCENDING TO 11000

UNSHIFTED

WORKLOAD SUMMARY
CREWMEMBER - PILOT

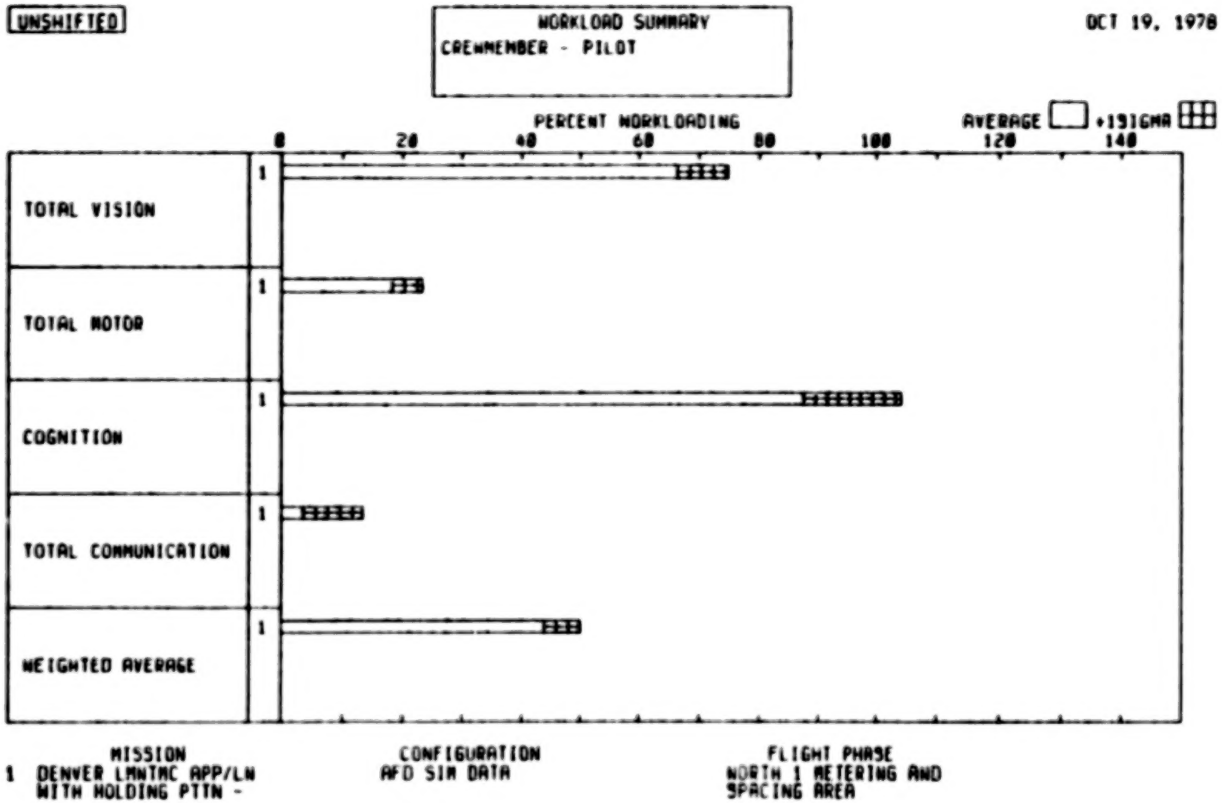
OCT 19, 1978



MISSION
1 DENVER LMNTMC APP/LN WITH HOLDING PTTN -

CONFIGURATION
AFD SIM DATA

FLIGHT PHASE
AIRCRAFT DESCENDS TO 8000 AND SLOWS TO 170 KTS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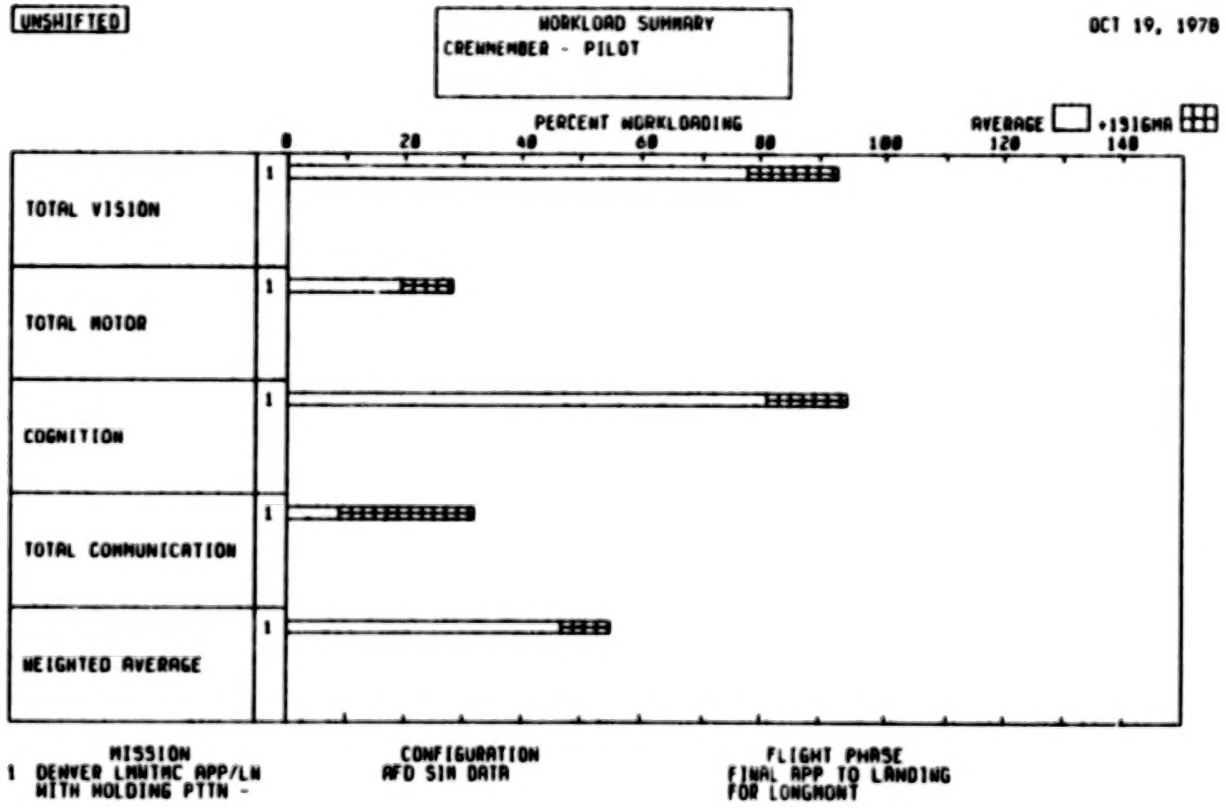
WORKLOAD SUMMARY
CREWMEMBER - PILOT
OCT 19, 1978
PERCENT WORKLOADING
AVERAGE
+1SIGMA
0
20
40
60
80
100
120
140
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 DENVER LMNTMC APP/LN WITH HOLDING PTTN -
CONFIGURATION
AFD SIM DATA
FLIGHT PHASE
NORTH 1 METERING AND SPACING AREA

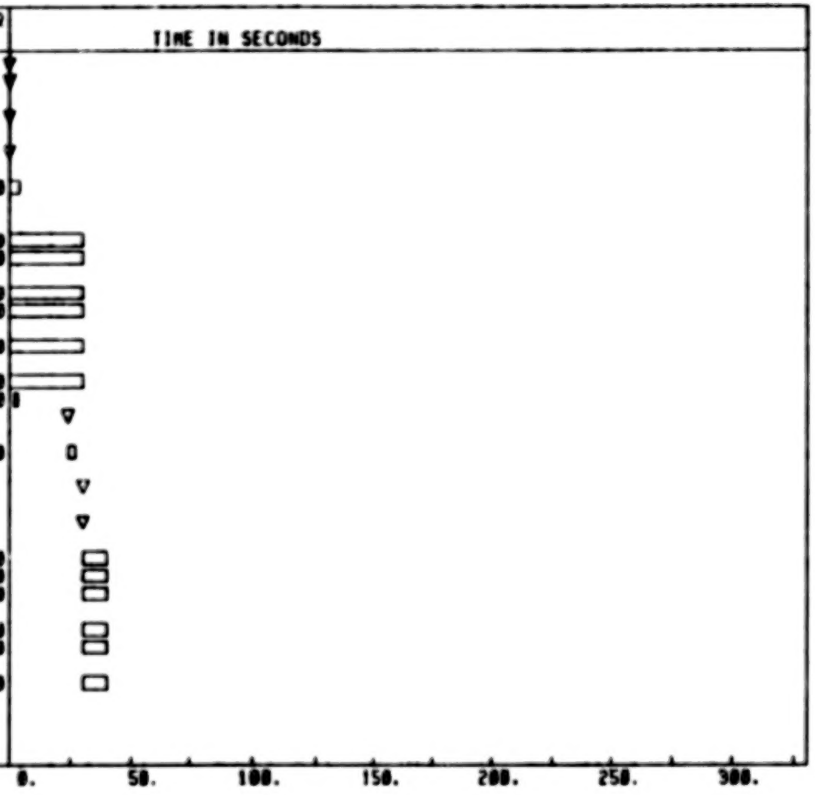

UNSHIFTED
WORKLOAD SUMMARY
CREWMEMBER - PILOT
OCT 19, 1978
PERCENT WORKLOADING
AVERAGE
+1SIGMA
0
20
40
60
80
100
120
140
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 DENVER LANTAC APP/LN
WITH HOLDING PTTN -
CONFIGURATION
AFD SIM DATA
FLIGHT PHASE
FINAL APP TO LANDING
FOR LONGMONT

UNSHIFTED

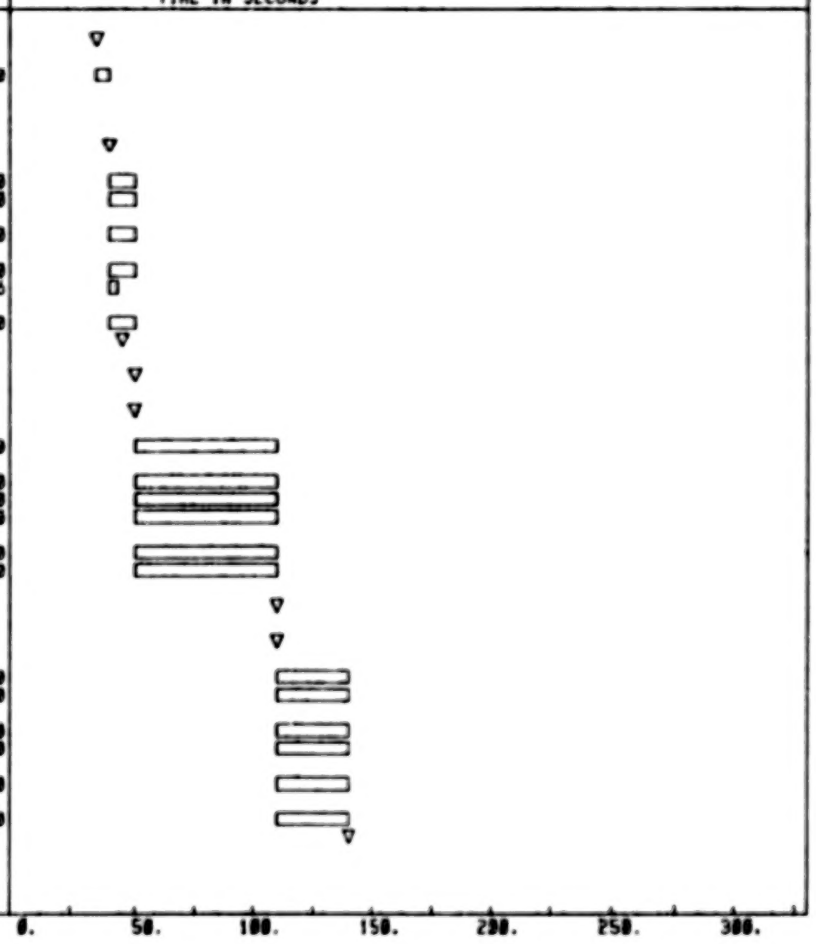
MISSION TIMELINE
MISSION - DENVER LANTNC APP/LN WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE - LONGMONT APPROACH TO LANDING WITH HOLDING PATTERN
CREWMEMBER - PILOT

OCT 19, 1978

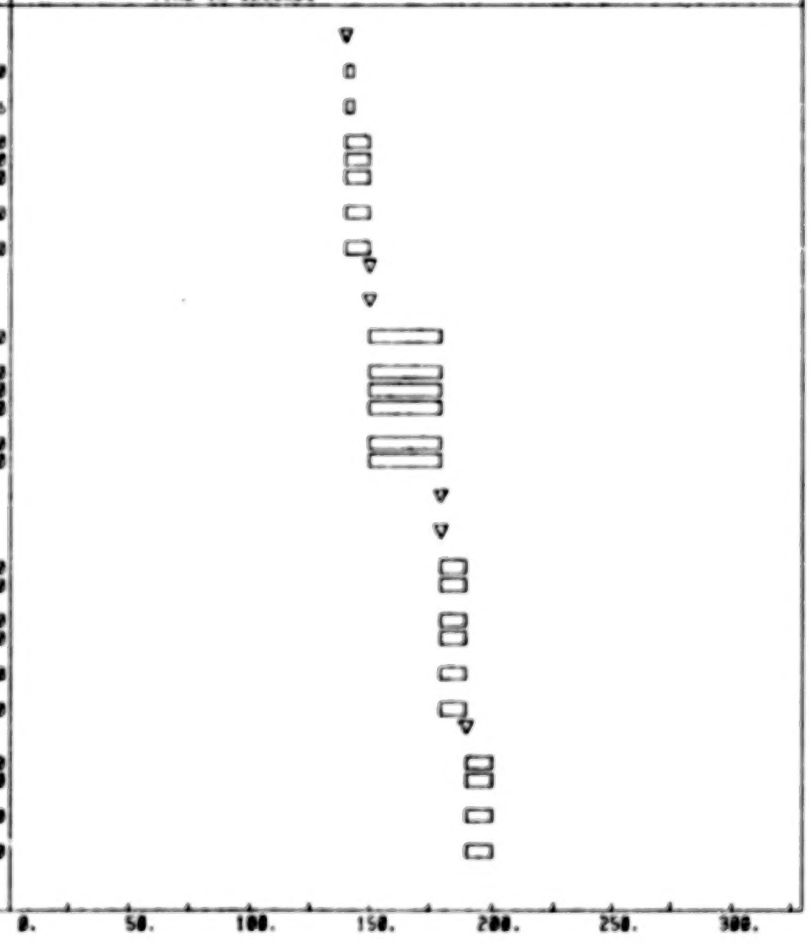
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LANT01	START OF FLIGHT CON	
MCA305	CONTROL AIRCRAFT - C (30 SEC PROC)	
ISP305	FLIGHT INSTRUMENT SCAN - E	
140023	REPORT 1000 FT TO LEVEL OFF	
1PLANT01	MSG- UNITED 76, CONTACT DENVER APRCH CNTRL ON 128.05	4.50
4A 64	MANUALLY CONTROL A/C	30.00
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	30.00
2J 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
1P 11	MON VERBAL REPORT	1.70
LANT02	DESCENT INSTRUCTIONS TO 15000	
1PLANT06	MSG- UNITED76 DSCND MAINTAIN 15000	3.00
MCA105	CONTROL AIRCRAFT - E (10 SEC PROC)	
ISP105	FLIGHT INSTRUMENT SCAN - E	
2K 14	MON EHSI DISPLAY	10.00
4A 64	MANUALLY CONTROL A/C	10.00
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00



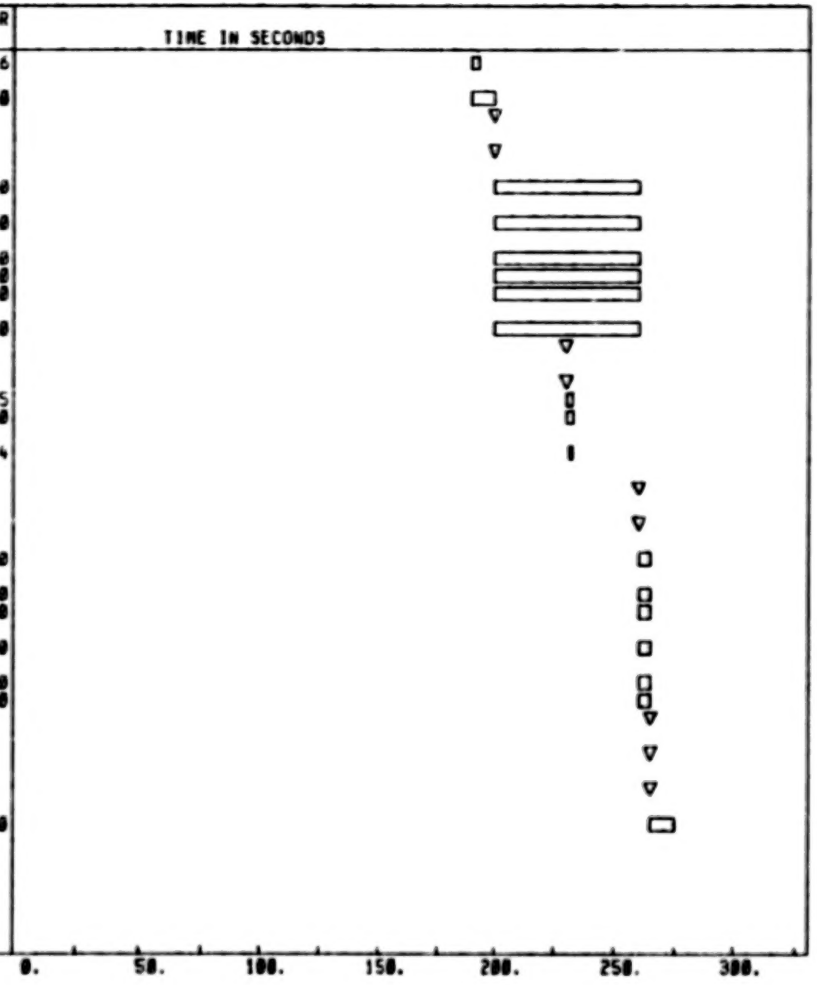
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LANT03	RECEIVE HOLDING PTN INSTRUCTIONS	
IPLANT08	MSG- UNITED76 HOLD AT LONGMOUNT, EXPECT FURTHER CLEARANCE AT 10 40	5.00
ALTCUP	ACTUATE VCWS TO END DESCENT	
3H 06	MON ALTIMETER	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 32	MON ALT/RNG SYMBOLS	10.00
4F 01	SET SPD BRAKE LEVER TO DOWN	5.26
4A 64	MANUALLY CONTROL A/C	10.00
LANT58	UNITED 76 REACHES 15000 AND LEVELS OFF	
MCA605	CONTROL AIRCRAFT - F (60 SEC PROC)	
ISP605	FLIGHT INSTRUMENT SCAN - F	
3A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EHSI DISPLAY	60.00
4A 65	MANUALLY CONTROL A/C	60.00
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	60.00
2J 42	MON EADI	60.00
3L 02	MON VERTICAL SPEED INDIC	60.00
MCA305	CONTROL AIRCRAFT - C (30 SEC PROC)	
ISP305	FLIGHT INSTRUMENT SCAN - E	
4A 64	MANUALLY CONTROL A/C	30.00
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	30.00
2J 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
LANT04	DESCENT INSTRUCTIONS TO 14000	



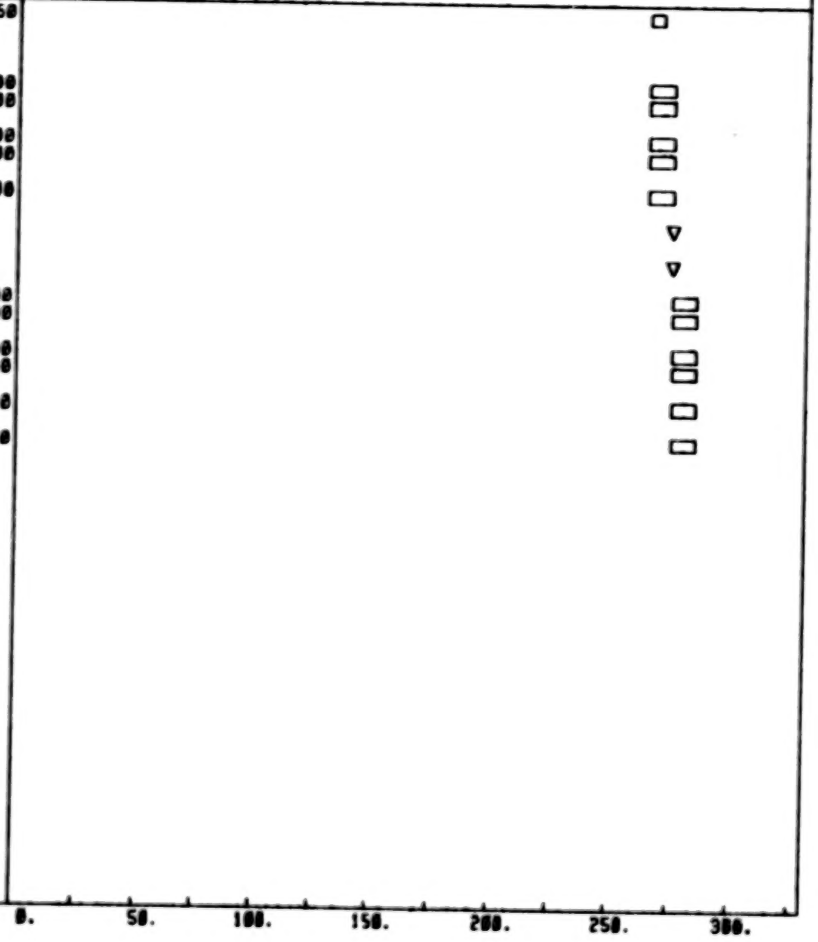
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
ALTCDN	ACTUATE VCWS TO START DESCENT	
1PLMNT10	MSG- UNITED76 DSCND	3.00
	MAINTAIN 14000	
4F 03	SET SPEED BRAKE LEVER TO FLT DETENT	3.26
4A 64	MANUALLY CONTROL A/C	10.00
5H 06	MON ALTIMETER	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 32	MON ALT/RNG SYMBOLS	10.00
MCA305	CONTROL AIRCRAFT - C (30 SEC PROC)	
ISP305	FLIGHT INSTRUMENT SCAN - E	
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
4A 64	MANUALLY CONTROL A/C	30.00
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	30.00
2J 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
MCA105	CONTROL AIRCRAFT - B (10 SEC PROC)	
ISP105	FLIGHT INSTRUMENT SCAN - B	
4A 64	MANUALLY CONTROL A/C	10.00
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
ALTCUP	ACTUATE VCWS TO END DESCENT	
5H 06	MON ALTIMETER	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 32	MON ALT/RNG SYMBOLS	10.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
4F 01	SET SPD BRAKE LEVER TO DOWN	5.26
4A 64	MANUALLY CONTROL A/C	10.00
MCA60S	CONTROL AIRCRAFT - F (60 SEC PROC)	
ISP60S	FLIGHT INSTRUMENT SCAN - F	
5L 02	MON VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EHSI DISPLAY	60.00
4A 65	MANUALLY CONTROL A/C	60.00
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	60.00
2J 42	MON EADI	60.00
LMNT05	RECEIVE SPEED REDUCTION TO 250 INST	
AFDSPD	AIRSPEED CHANGE PROC	
2H 47	ROTATE CAS ENG KNOB	2.45
1PLMNT12	MSG- UNITED76 REDUCE SPEED TO 250KTS	5.00
2H 48	READ CAS ENG VALUE ON DIGITAL INDIC	1.04
MCA05S	CONTROL AIRCRAFT - A (5 SEC PROC)	
ISP05S	FLIGHT INSTRUMENT SCAN - A	
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	5.00
2J 42	MON EADI	5.00
3L 02	MON VERTICAL SPEED INDIC	5.00
3A 10	MONITOR AIRSPEED INDIC	5.00
2K 16	MON EHSI DISPLAY	5.00
4A 64	MANUALLY CONTROL A/C	5.00
LMNT06	RECEIVE HOLDING PTN INSTRUCTIONS	
MCA10S	CONTROL AIRCRAFT - A (10 SEC PROC)	
ISP10S	FLIGHT INSTRUMENT SCAN - A	
2K 14	MON EHSI DISPLAY	10.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
1PLMNT13	MSG- UNITED76 HOLD AT LONGMONT EXPECT FURTHER CLEARANCE AT 16 40 42	5.50
4A 64	MANUALLY CONTROL A/C	10.00
4B 89	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00
2J 42	MON EADI	10.00
3L 82	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
MCA105	CONTROL AIRCRAFT - B (10 SEC PROC)	
ISP105	FLIGHT INSTRUMENT SCAN - B	
4A 64	MANUALLY CONTROL A/C	10.00
4B 89	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00
2J 42	MON EADI	10.00
3L 82	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00

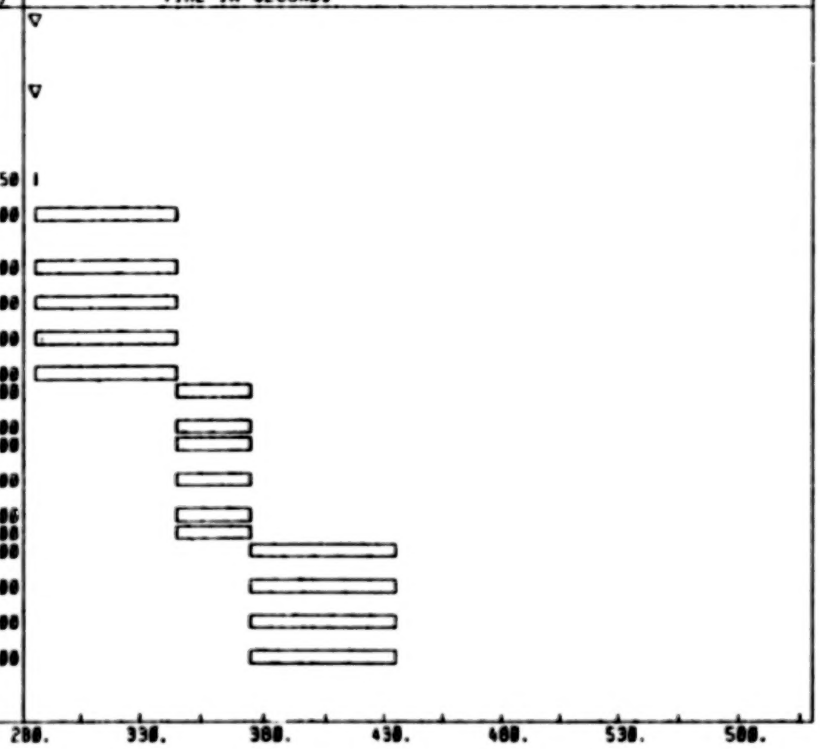


UNSHIFTED

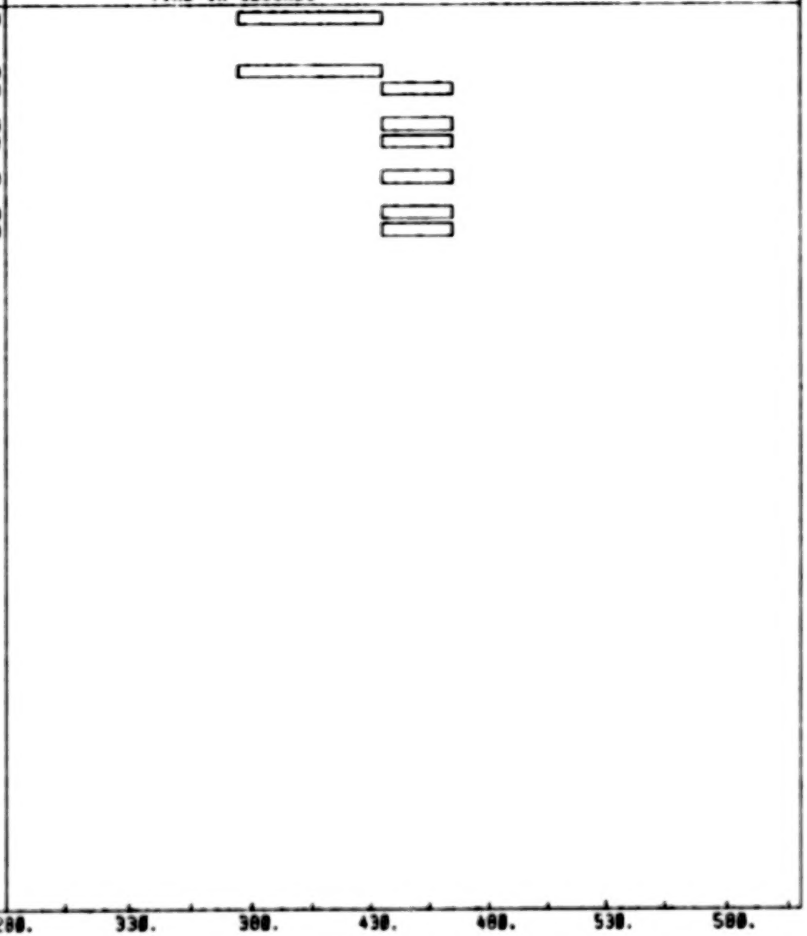
MISSION TIMELINE
MISSION - DENVER LANTMC APP/LN
WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE - HOLDING PATTERN FOR LONGMONT APP BETWEEN MEEKER AND LONGMNT
CREWMEMBER - PILOT

OCT 19, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LANTS1	UNITED 76 CROSSES LONGMONT INTSCTN AND ENTERS HLDG PTN AT 210KTS	
HLDPTN	HOLDING PATTERN PROC -RIGHT TURNS -1 1/2 MIN. LEGS -FOR METERING AND SPACING	
3S 20	MON INDIC OF MARKER FLY OVER ON CI	8.50
4A 66	MANUALLY CONTROL A/C TO MAKE RIGHT TURN IN HOLDING PATTERN	60.00
2K 33	MON CURVED TREND VECTOR SYMBOLS	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
3L 03	MON VERTICAL SPEED INDIC	60.00
3H 06	MON ALTIMETER	60.00
2K 46	MON STRAIGHT TREND VECTOR SYMBOL	30.00
3H 06	MON ALTIMETER	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
4A 64	MANUALLY CONTROL A/C	30.00
2K 14	MON EHSI DISPLAY	30.00
2K 33	MON CURVED TREND VECTOR SYMBOLS	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
3L 03	MON VERTICAL SPEED INDIC	60.00
3H 06	MON ALTIMETER	60.00



CODE		EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
4A	66	MANUALLY CONTROL A/C TO MAKE RIGHT TURN IN HOLDING PATTERN	60.00
2K	15	MON EHSI DISPLAY	60.00
2K	46	MON STRAIGHT TREND VECTOR SYMBOL	30.00
3H	06	MON ALTIMETER INDIC	30.00
3A	10	MONITOR AIRSPEED INDIC	30.00
3L	02	MON VERTICAL SPEED INDIC	30.00
4A	64	MANUALLY CONTROL A/C	30.00
2K	14	MON EHSI DISPLAY	30.00



UNSHIFTED

MISSION TIMELINE
MISSION - DENVER LNNTMC APP/LN
WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE -AIRCRAFT DEPARTS WLD
DESCENDING TO 11000

CREWMEMBER - PILOT

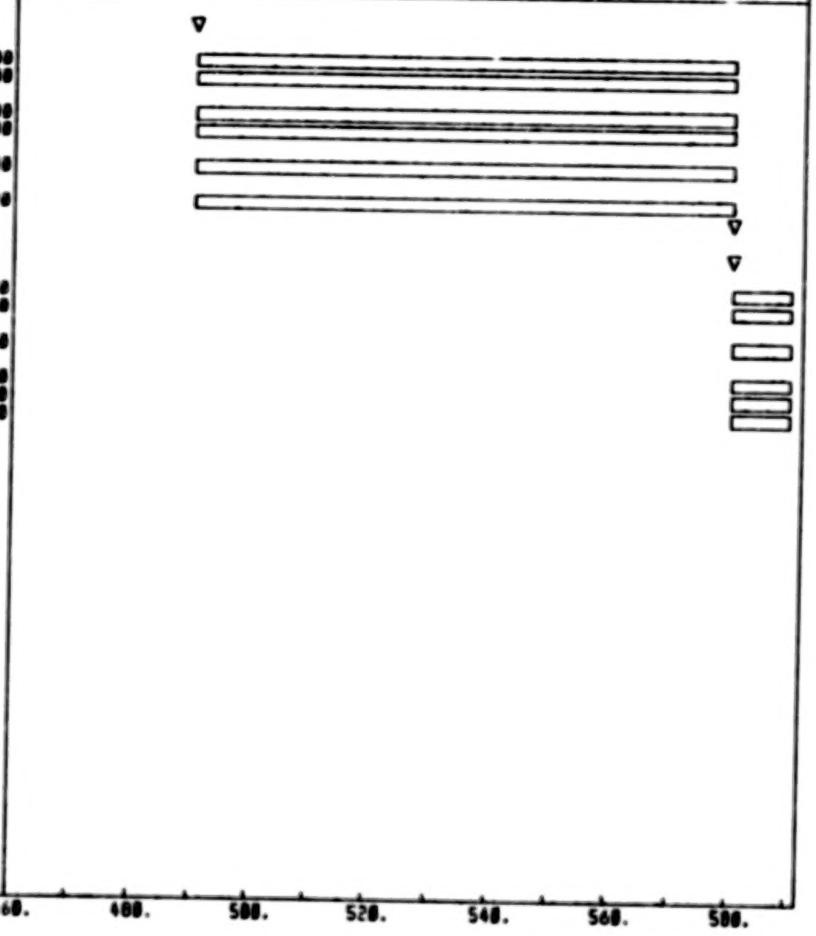
OCT 19, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LNNTS2	UNITED 76 DEPARTS WLOG PTN CONTINUING FLIGHT PATH	
LNNT87	RECEIVE DESCENT INST AND SPEED INCREASE	
IPLNNT15	MSG- UNITED76 INCRSE SPEED TO 220KTS DSCND MAINTAIN 11000	4.50
AFDSPD	AIRSPEED CHANGE PROC	
MCA155	CONTROL AIRCRAFT - A (15 SEC PROC)	
ISP153	FLIGHT INSTRUMENT SCAN - C	
4B 09	ACTUATE THROTILES TO ADJUST AIRSPEED	15.00
2J 43	MON EADI	15.00
9L 84	MON IVSI INDIC	15.00
3A 14	MON AIRSPEED INDIC	15.00
2K 16	MON EHSI DISPLAY	15.00
2H 47	ROTATE CAS ENG KNOB	2.45
4A 31	MANUALLY CONTROL A/C	15.00
2H 48	READ CAS ENG VALUE ON DIGITAL INDIC	1.84
ALTCON	ACTUATE VCWS TO START DESCENT	
2K 32	MON ALT/RNG SYMBOLS	10.00
4F 83	SET SPEED BRAKE LEVER TO FLT DETENT	3.26
4A 64	MANUALLY CONTROL A/C	10.00
3H 86	MON ALTIMETER	10.00
9L 82	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
MCA985	CONTROL AIRCRAFT - G (90 SEC PROC)	

TIME IN SECONDS

460. 480. 500. 520. 540. 560. 580.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
ISP905	FLIGHT INSTRUMENT SCAN - G	
4A 65	MANUALLY CONTROL A/C	90.00
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	90.00
2J 43	MON EADI	90.00
3L 03	MON VERTICAL SPEED INDIC	90.00
3A 11	MONITOR AIRSPEED INDIC	90.00
2K 15	MON EWSI DISPLAY	90.00
MCA105	CONTROL AIRCRAFT - B (10 SEC PROC)	
ISP105	FLIGHT INSTRUMENT SCAN - B	
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EWSI DISPLAY	10.00
4A 64	MANUALLY CONTROL A/C	10.00
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00

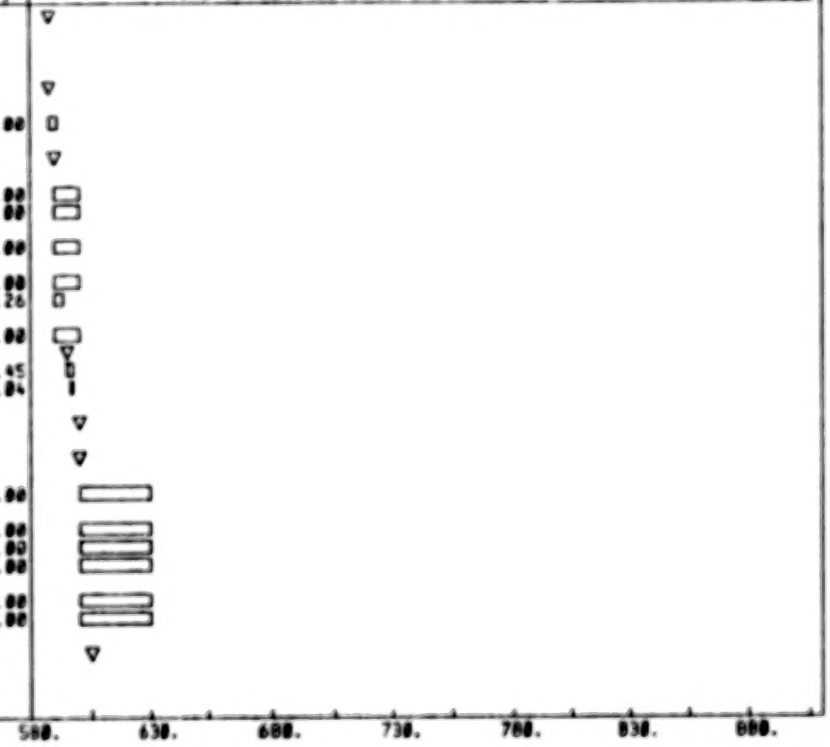


UNSHIFTED

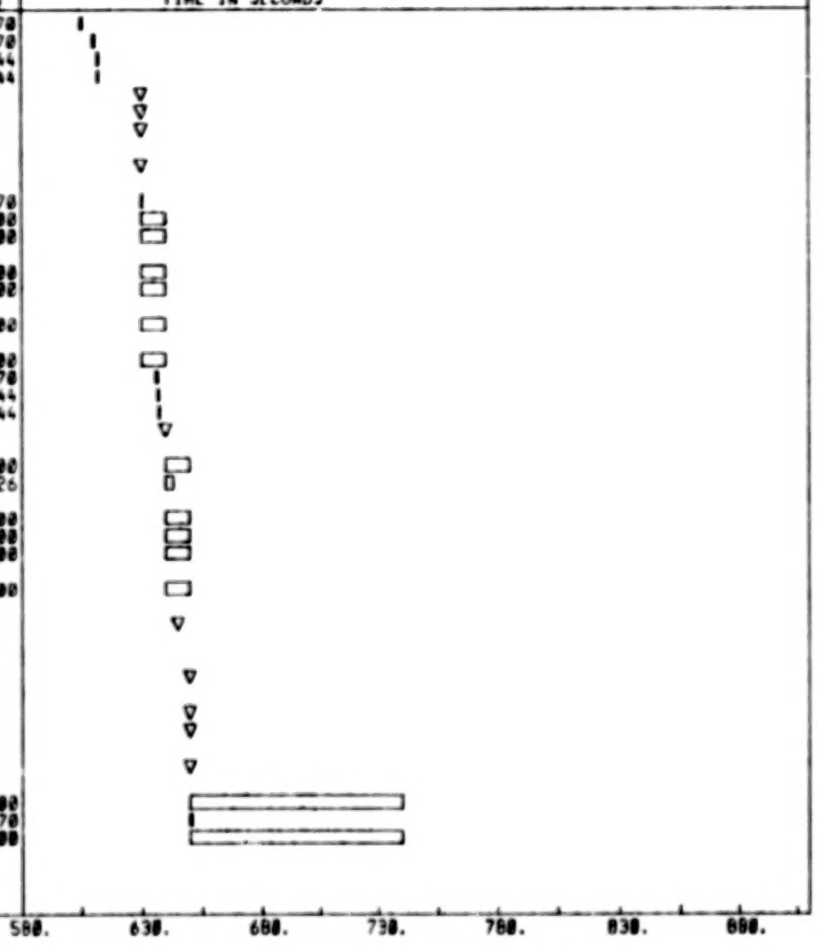
MISSION TIMELINE
MISSION - DENVER LNAVTMC APP/LN
WITH HOLDING PT'N -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE -AIRCRAFT DESCENDS
TO 8000 AND SLOWS
TO 170 KTS
CREWMEMBER - PILOT

OCT 19, 1978

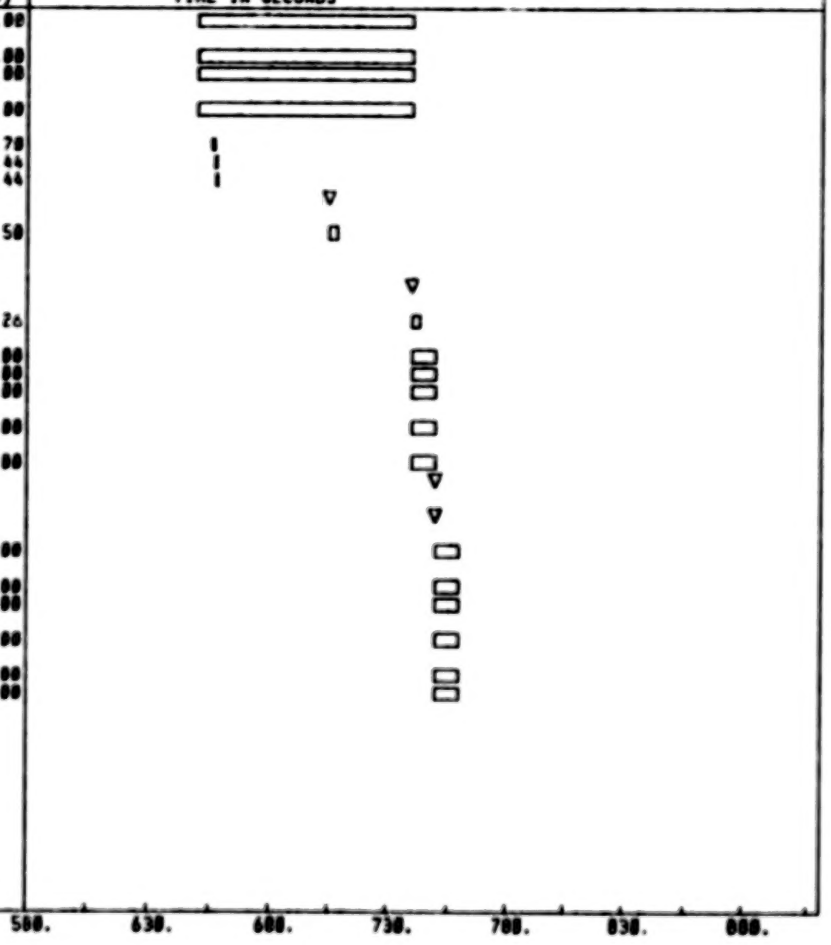
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LANTS3	UNITED 76 CROSSES BRIGHTON INTSCTN < 11000. LEVELS OFF AND SLOWS TO 170	
LANT88	RECEIVE SPEED REDUCTION INSTRUCTIONS-170	
1PLMNT17	MSG- UNITED76 REDUCE SPEED TO 1 KTS	3.00
ALTCUP	ACTUATE VCWS TO END DESCENT	
3H 06	MON ALTIMETER	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 32	MON ALT/RNG SYMBOLS	10.00
4F 01	SET SPD BRAKE LEVER TO DOWN	3.26
4A 64	MANUALLY CONTROL A/C	10.00
AFDSPD	AIRSPEED CHANGE PROC	
2H 47	ROTATE CAS ENG KNOB	2.45
2H 48	READ CAS ENG VALUE ON DIGITAL INDIC	1.04
MCA305	CONTROL AIRCRAFT - C (30 SEC PROC)	
ISP305	FLIGHT INSTRUMENT SCAN - E	
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
4A 64	MANUALLY CONTROL A/C	30.00
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	30.00
2J 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
160011	SET FLAPS TO FLAPS 1	



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
1P160858	CALL OUT -(FLAPS 1)	0.70
1P 10	MON VERBAL REPORT	0.70
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
160817	SET FLAPS TO FLAPS 5	
160818	FLAP SET PROCEDURE	
MCA105	CONTROL AIRCRAFT - 8 (10 SEC PROC)	
ISP105	FLIGHT INSTRUMENT SCAN - 8	
1P160861	CALL OUT -(FLAPS 5)	0.70
4A 64	MANUALLY CONTROL A/C	10.00
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
1P 10	MON VERBAL REPORT	0.70
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
ALTCON	ACTUATE VCWS TO START DESCENT	
2K 32	MON ALT/RNG SYMBOLS	10.00
4F 03	SET SPEED BRAKE LEVER TO FLT DETENT	3.26
4A 64	MANUALLY CONTROL A/C	10.00
3H 06	MON ALTIMETER	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
LWNT54	UNITED 76 REACHES 170KTS AND RESUMES DESCENT TO 8000	
160825	SET FLAPS TO FLAPS 15	
160818	FLAP SET PROCEDURE	
MCA905	CONTROL AIRCRAFT - G (90 SEC PROC)	
ISP905	FLIGHT INSTRUMENT SCAN - G	
2K 15	MON EHSI DISPLAY	90.00
1P160862	CALL OUT -(FLAPS 15)	0.70
4A 65	MANUALLY CONTROL A/C	90.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	90.00
2J 43	MON EADI	90.00
3L 03	MON VERTICAL SPEED INDIC	90.00
3A 11	MONITOR AIRSPEED INDIC	90.00
1P 10	MON VERBAL REPORT	0.70
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
LANT09	CONTACT DENVER LCL CONTROL 118.3	
1PLMNT19	MSG- UNITED76 CONTCT DENVER LOCAL CONTROL ON 118.3	3.50
ALTCUP	ACTUATE VCWS TO END DESCENT	
4F 01	SET SPD BRAKE LEVER TO DOWN	3.26
4A 04	MANUALLY CONTROL A/C	10.00
3H 06	MON ALTIMETER	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 32	MON ALT/RNG SYMBOLS	10.00
MCA105	CONTROL AIRCRAFT - 0 (10 SEC PROC)	
ISP105	FLIGHT INSTRUMENT SCAN - 0	
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
4A 04	MANUALLY CONTROL A/C	10.00



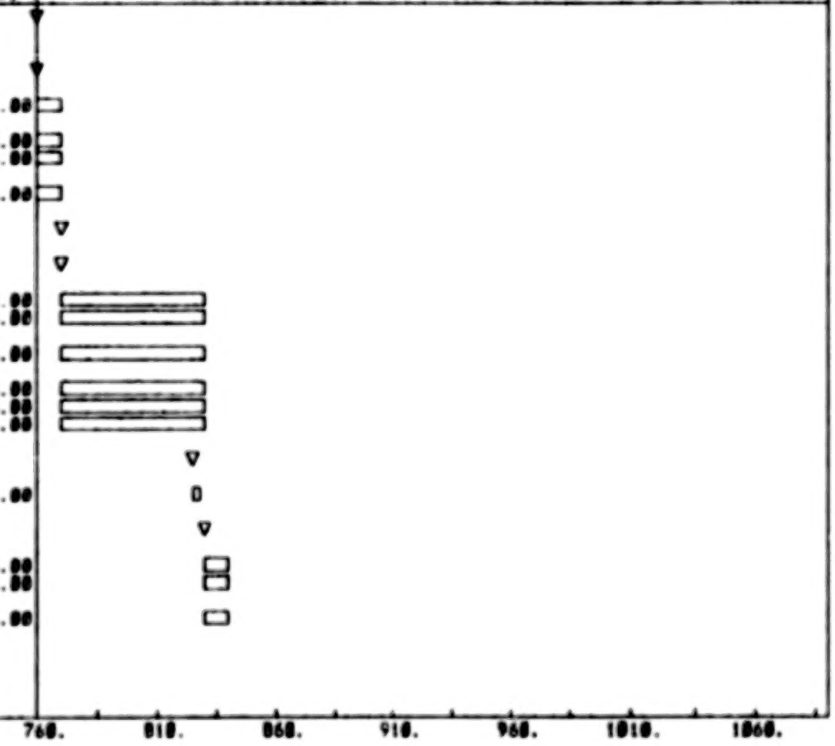
UNSHIFTED

MISSION TIMELINE
MISSION - DENVER LANTMC APP/LN
WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE -NORTH 1 METERING AND
SPACING AREA

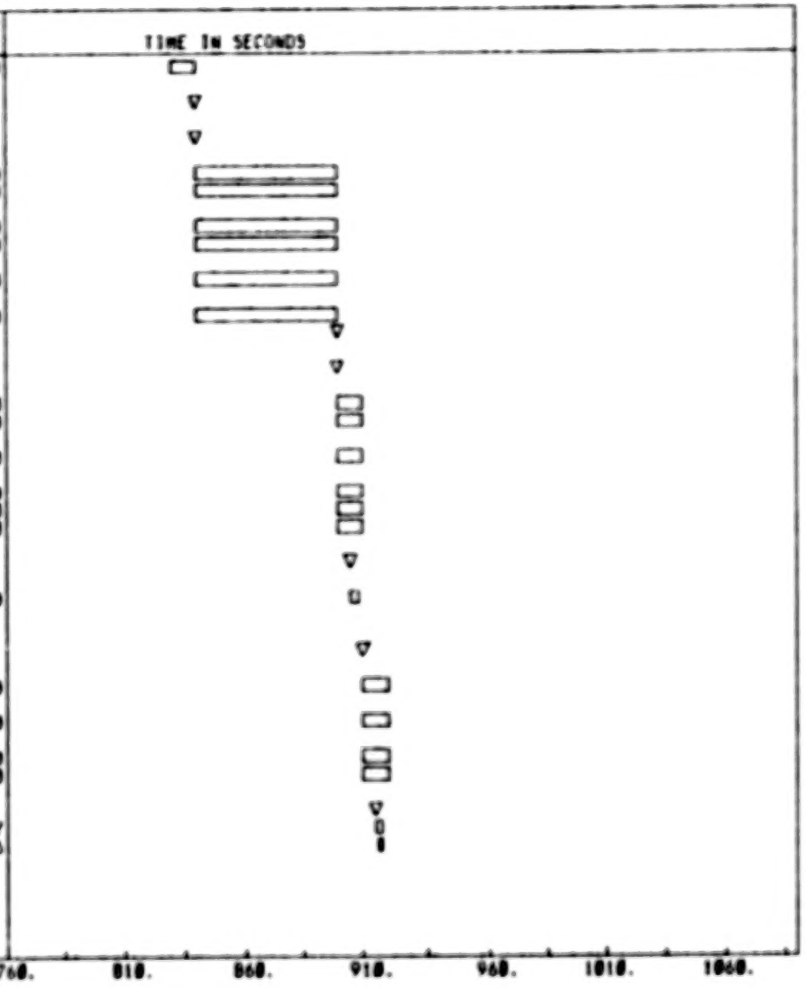
CREWMEMBER - PILOT

OCT 19, 1978

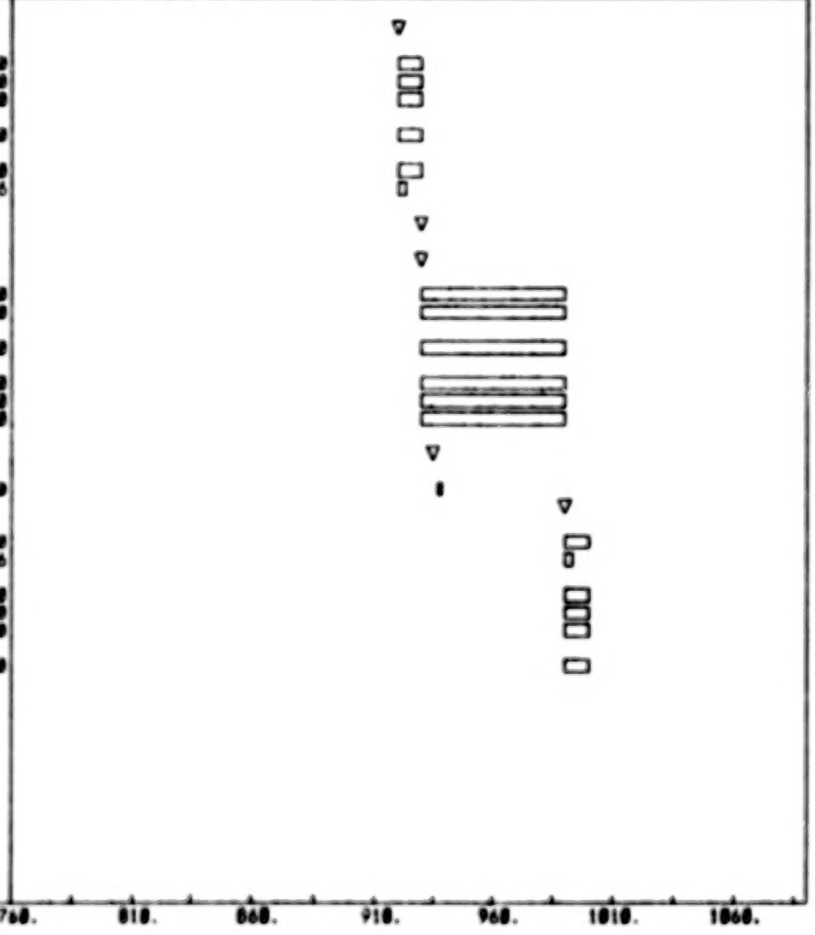
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LANTS5	UNITED 76 CROSSES NORTH1 INTSCTN < 170 170KTS AND 8000	
HDGCHG	HEADING CHANGE PROC. -CWS	
4A 28	ACT FLT CONTROL TO CHANGE HDG	10.00
2K 14	MDN EHSI DISPLAY	10.00
2K 33	MDN CURVED TREND VECTOR SYMBOLS	10.00
3L 02	MDN VERTICAL SPEED INDIC	10.00
MCA60S	CONTROL AIRCRAFT - F (60 SEC PROC)	
ISP60S	FLIGHT INSTRUMENT SCAN - F	
2J 42	MDN EADI	60.00
3L 02	MDN VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MDN EHSI DISPLAY	60.00
4A 65	MANUALLY CONTROL A/C	60.00
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	60.00
LANT10	RECEIVE INST TO FLY DIRECT ALTURA	
1PLANT21	MSG- UNITED76 FLY DIRECT TO ALTURA	3.00
HDGCHG	HEADING CHANGE PROC. -CWS	
2K 14	MDN EHSI DISPLAY	10.00
2K 33	MDN CURVED TREND VECTOR SYMBOLS	10.00
3L 02	MDN VERTICAL SPEED INDIC	10.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
4A 28	ACT FLT CONTROL TO CHANGE HDG	10.00
MCA605	CONTROL AIRCRAFT - F (60 SEC PROC)	
ISP605	FLIGHT INSTRUMENT SCAN - F	
4A 05	MANUALLY CONTROL A/C	60.00
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	60.00
2J 42	MON EADI	60.00
3L 02	MON VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EHSI DISPLAY	60.00
MCA105	CONTROL AIRCRAFT - [illegible] (10 SEC PROC)	
ISP105	FLIGHT INSTRUMENT SCAN - [illegible]	
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
4A 64	MANUALLY CONTROL A/C	10.00
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00
LANT11	RECEIVE INST TO FLY DIRECT TO GATE	
1PLANT23	MSG- UNITED76 FLY DIRECT TO APPROACH GATE	3.50
HDGCHG	HEADING CHANGE PROC. -CWS	
3L 02	MON VERTICAL SPEED INDIC	10.00
4A 28	ACT FLT CONTROL TO CHANGE HDG	10.00
2K 14	MON EHSI DISPLAY	10.00
2K 33	MON CURVED TREND VECTOR SYMBOL	10.00
AFDALT	ALTITUDE CHANGE PROC	
2H 33	ROTATE ALT ENG KNOB	2.47
2H 34	READ ALT ENG VALUE ON DIGITAL INDIC	1.86



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
ALTCDN	ACTUATE VCWS TO START DESCENT	
4A 64	MANUALLY CONTROL A/C	10.60
3H 06	MON ALTIMETER	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 32	MON ALT/RNG SYMBOLS	10.00
4F 03	SET SPEED BRAKE LEVER TO FLT DETENT	3.26
MCA60S	CONTROL AIRCRAFT - F (60 SEC PROC)	
ISP60S	FLIGHT INSTRUMENT SCAN - F	
2J 42	MON EADI	60.00
3L 02	MON VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EWSI DISPLAY	60.00
4A 65	MANUALLY CONTROL A/C	60.00
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	60.00
140023	REPORT 1000 FT TO LEVEL OFF	
1P 11	MON VERBAL REPORT	1.70
ALTCUP	ACTUATE VCWS TO END DESCENT	
2K 32	MON ALT/RNG SYMBOLS	10.00
4P 01	SET SPD BRAKE LEVER TO DOWN	3.26
4A 64	MANUALLY CONTROL A/C	10.00
3H 06	MON ALTIMETER	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00



UNSHIFTED

MISSION TIMELINE
MISSION - DENVER LANTAC APP/LN
WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE -FINAL APP TO LANDING
FOR LONGMONT

CREWMEMBER - PILOT

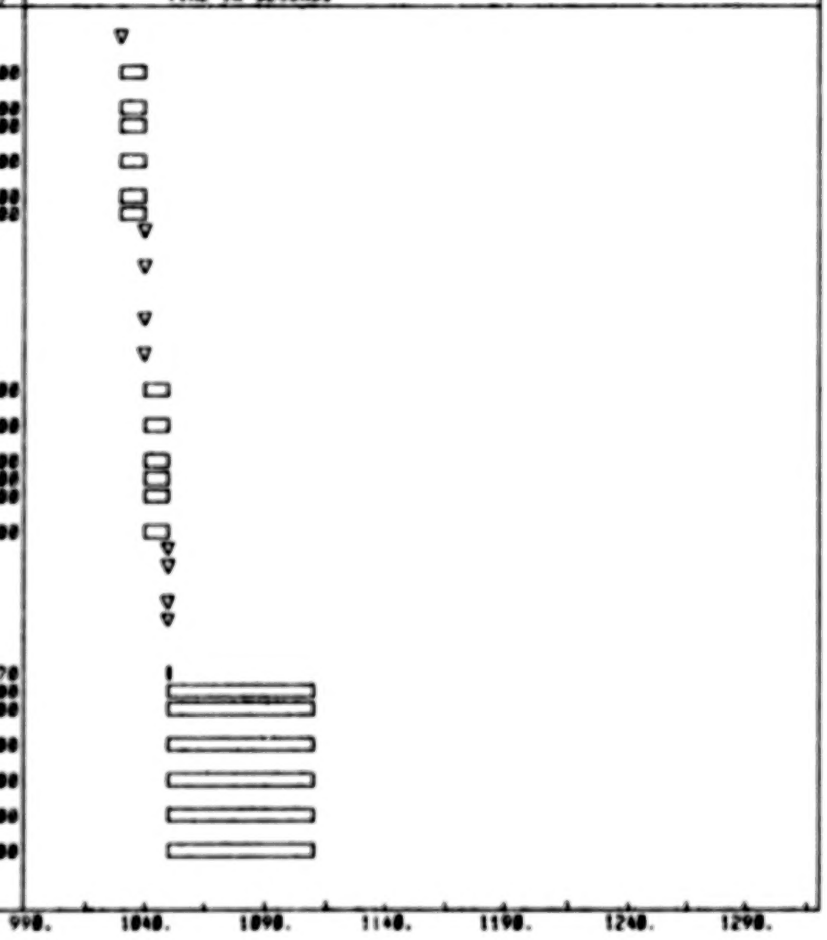
OCT 19, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LANT56	U 76 CROSSES GATE SETS FLAPS TO 25 SLOWS TO APOCH SPD	
LANT12	RECEIVE INST TO SLOW TO APOCH SPEED AND CALL TOWER AT O.M.	
IPLANT25	MSG- UNITED76 REDUCE TO APPROACH SPEED CONTACT TWR AT O.M. ON120.0	5.50
AFDSPD	AIRSPEED CHANGE PROC	
MCA305	CONTROL AIRCRAFT - C (30 SEC PROC)	
ISP305	FLIGHT INSTRUMENT SCAN - E	
4B 10	ACTUATE THROTTLES TO ADJUST AIRSPEED	30.00
2J 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
2H 47	ROTATE CAS ENG KNOB	2.45
4A 64	MANUALLY CONTROL A/C	30.00
2H 40	READ CAS ENG VALUE ON DIGITAL INDIC	1.04
160053	SET FLAPS TO FLAPS 25	
160010	FLAP SET PROCEDURE	
IP160070	CALL OUT -(FLAPS 25)	0.70
IP 10	MON VERBAL REPORT	0.70
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
MCA105	CONTROL AIRCRAFT - C (10 SEC PROC)	

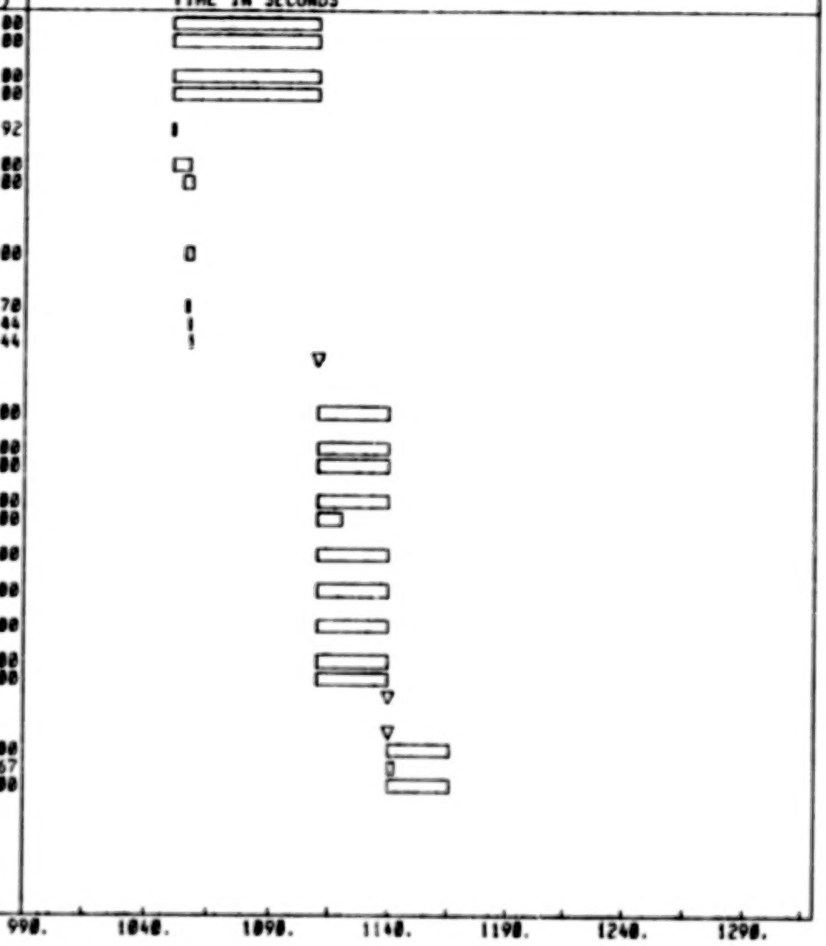
TIME IN SECONDS

990. 1040. 1090. 1140. 1190. 1240. 1290.

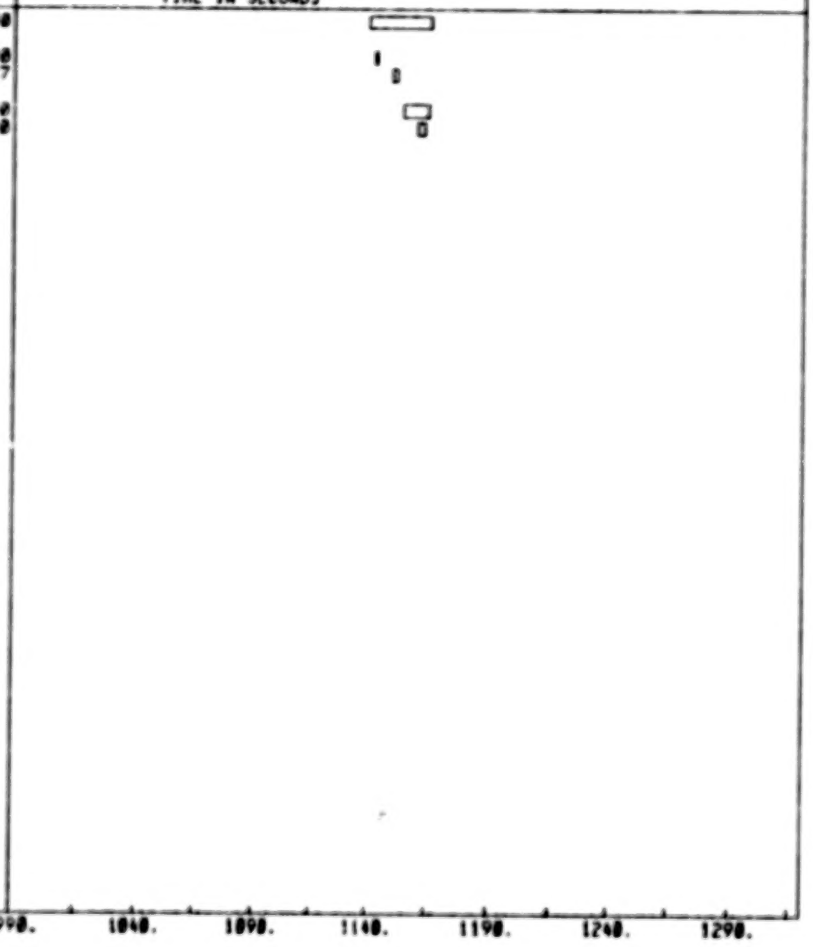
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
ISP105	FLIGHT INSTRUMENT SCAN - B	
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00
2J 42	MON EADI	10.00
5L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
4A 64	MANUALLY CONTROL A/C	10.00
LANTS7	UNITED 76 CROSSES O.M. SETS FLAPS 40	
LNDCLR	CONTACT TOWER FOR FINAL LANDING CLEARANCE	
MCA105	CONTROL AIRCRAFT - B (10 SEC PROC)	
ISP105	FLIGHT INSTRUMENT SCAN - B	
5L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
4A 64	MANUALLY CONTROL A/C	10.00
4B 09	ACTUATE THROTTLES TO ADJUST AIRSPEED	10.00
2J 42	MON EADI	10.00
180831	ACQUIRE GLIDE SLOPE	
160857	SET FLAPS TO FLAPS 40	
160810	FLAP SET PROCEDURE	
FNLAP6	CONTROL A/C ON FINAL APPROACH - PILOT (60 SEC)	
1P160873	CALL OUT -(FLAPS 40)	0.70
4A 65	MANUALLY CONTROL A/C	60.00
2J 04	MON FLT PATH ACCEL INDIC	60.00
2J 09	MON FLT PATH ANGLE INDIC	60.00
2J 38	MONITOR LOCALIZER INDICATOR	60.00
2J 39	MON GLIDE SLOPE ATT INDIC	60.00
2J 30	MON SPD ERR BAR	60.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
2J 40	MON EADI RNWY	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
3H 06	MON ALTIMETER	60.00
5L 02	MON VERTICAL SPEED INDIC	60.00
3V 09	MON GLIDE SLOPE &/OR RUN LT GREEN	0.92
1B 19	MON VHF-2 COMM AUDIO	7.00
1PLNDCL4	MON RADIO COMM - [UNITED 24, DENVER TOWER, ROGER, CLEAR TO LAND RUNWAY TWO SIX , WIND TWO ONE ZERO DEGREES AT ZERO NINER.]	4.00
1PLNDCL5		3.00
1P 10	MON VERBAL REPORT	0.70
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
FNLAP3	CONTROL A/C ON FINAL APPROACH - PILOT (30 SEC)	
3A 10	MONITOR AIRSPEED INDIC	30.00
3H 06	MON ALTIMETER	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
4A 64	MANUALLY CONTROL A/C	30.00
2J 04	MON FLT PATH ACCEL INDIC	10.00
2J 05	MON FLT PATH ANGLE INDIC	30.00
2J 38	MONITOR LOCALIZER INDICATOR	30.00
2J 39	MON GLIDE SLOPE ATT INDIC	30.00
2J 30	MON SPD ERR BAR	30.00
2J 40	MON EADI RNWY	30.00
160065	DESCEND THRU -DECISION HEIGTH	
MCALND	CONTROL AIRCRAFT	
2J 44	MON EADI RNWY	26.00
2J 25	SELECT LAND MODE	2.67
4A 79	MANUALLY CONTROL A/C THRU FLARE AND TOUCHDOWN	26.00



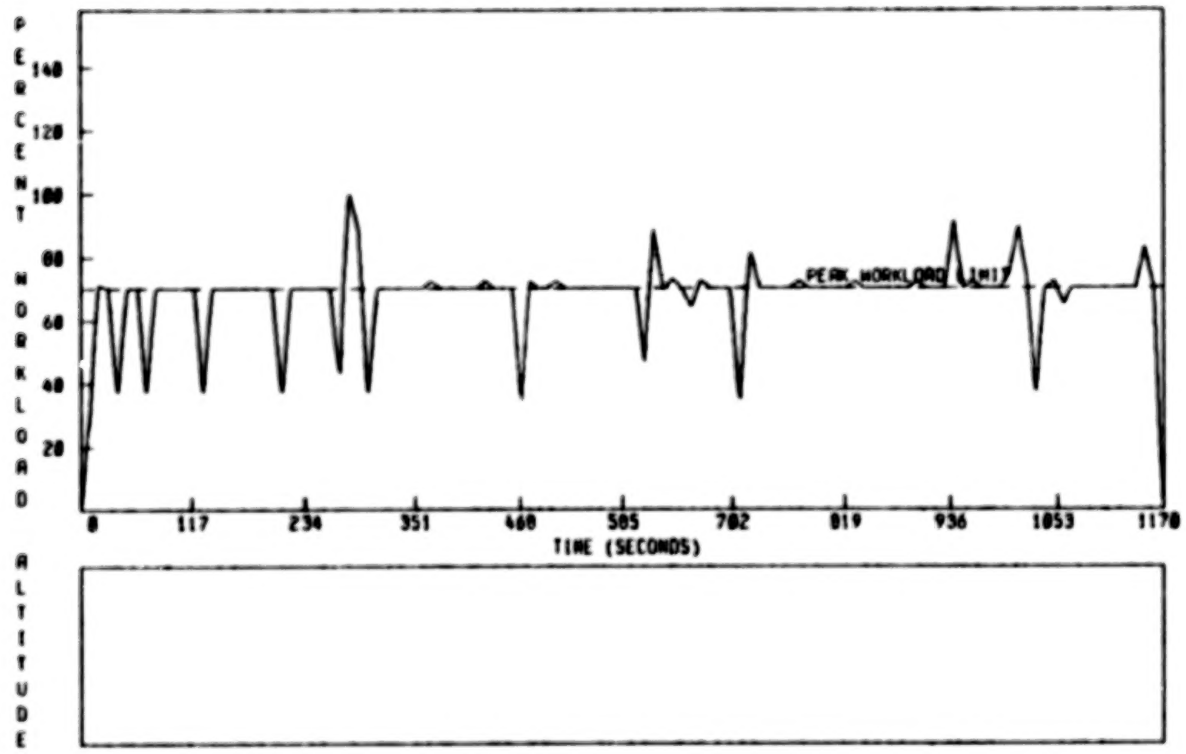
CODE		EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
2J	09	MON FLT PATH ANGLE INDIC	26.00
1P	11	MON VERBAL REPORT	0.00
2J	24	MON 100 FT INDIC ON EADI	2.27
2J	41	MON EADI DRIFT INDIC	10.00
4B	08	SET THRUST LEVERS TO IDLE	2.50



UNSHIFTED
OCT 19, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- TOTAL VISION
CONFIGURATION- AFD SIM DATA

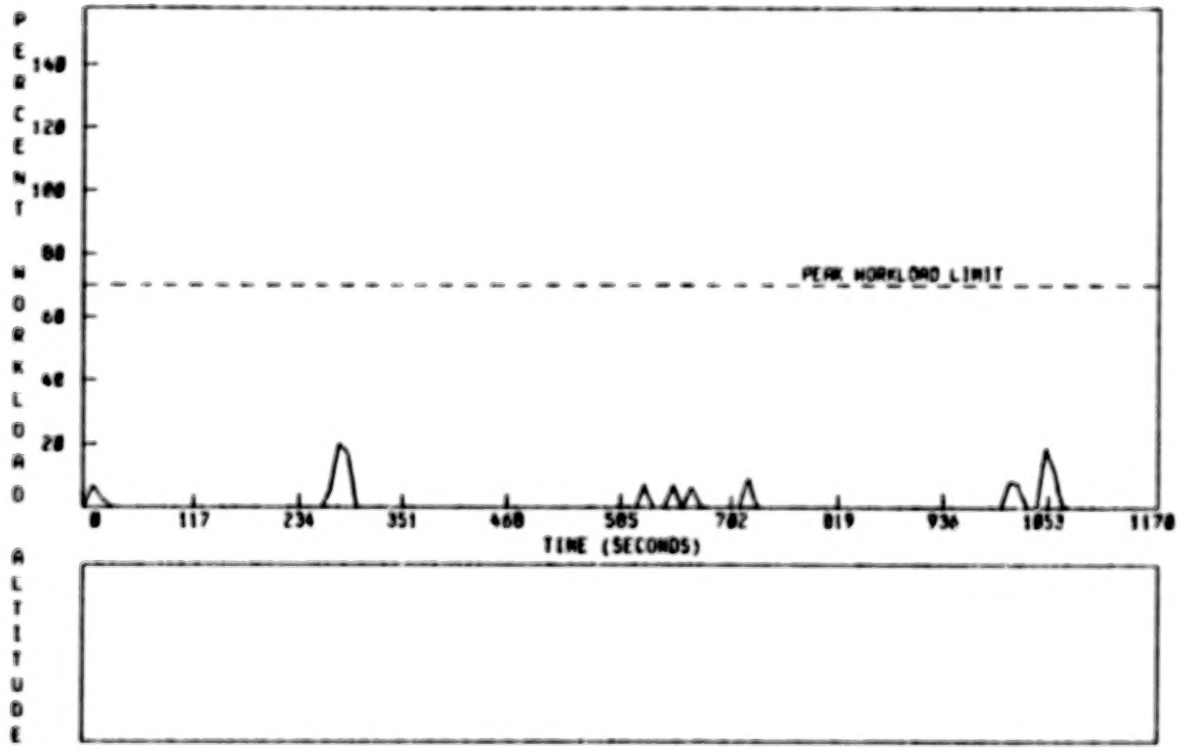
MISSION
DENVER LAMTAC APP/LN
WITH HOLDING PTTN -



UNSHIFTED
OCT 19, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- TOTAL MOTOR
CONFIGURATION- AFO SIM DATA

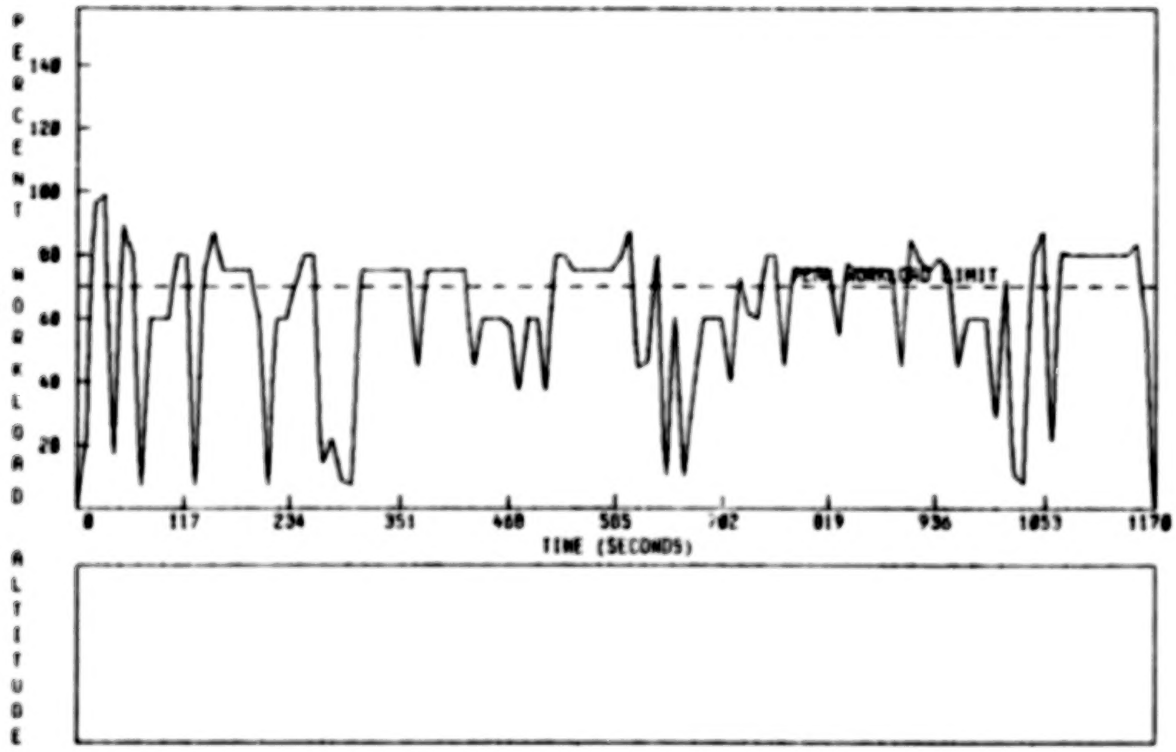
MISSION
DENVER LANTAC E2P/LN
WITH HOLDING PTTN -

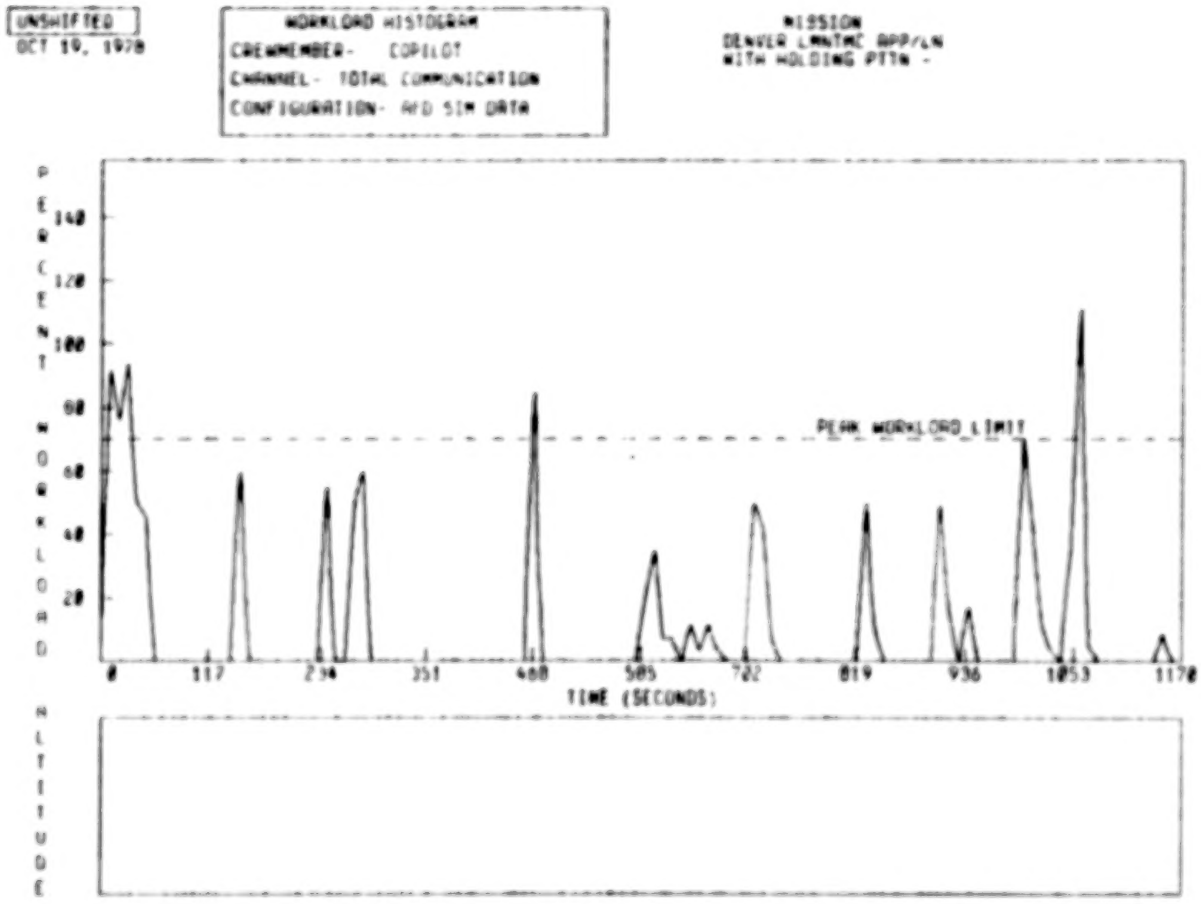


UNSHIFTED
OCT 19, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- COGNITION
CONFIGURATION- AFD SIM DATA

MISSION
DENVER LAMTMC APP/LN
WITH HOLDING PTTN -



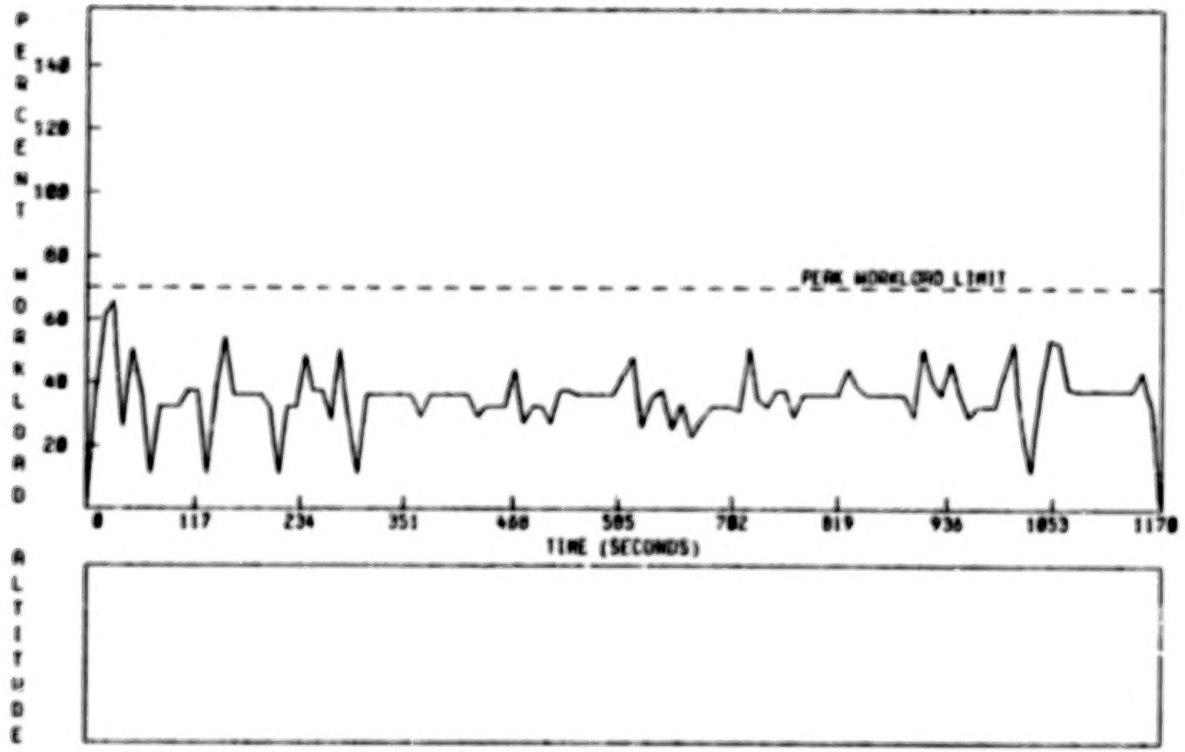

UNSHIFTED
OCT 19, 1978
WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- TOTAL COMMUNICATION
CONFIGURATION- AFD SIM DATA
MISSION
DENVER LRNTMC APP/LN
WITH HOLDING PTTN -
PERCENT WORKLOAD
PEAK WORKLOAD LIMIT
0
117
234
351
468
585
702
819
936
1053
1170
TIME (SECONDS)
ALTITUDE

1

UNSHIFTED
OCT 19, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- WEIGHTED CHANNEL AVERAGE
CONFIGURATION- AFD SIM DATA

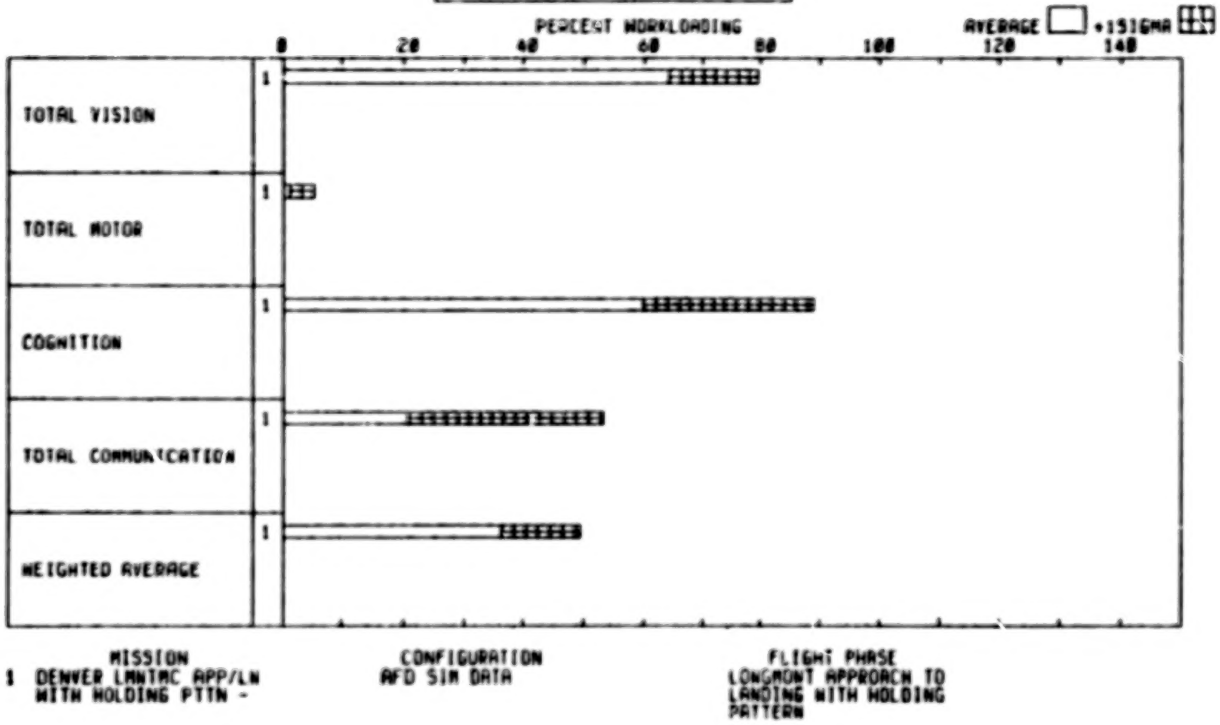
MISSION
DENVER LAMINC APP/LN
WITH HOLDING PTTN -



UNSHIFTED

WORKLOAD SUMMARY
CREWMEMBER - COPILOT

OCT 19, 1978



MISSION
1 DENVER LANTAC APP/LN WITH HOLDING PTTN -

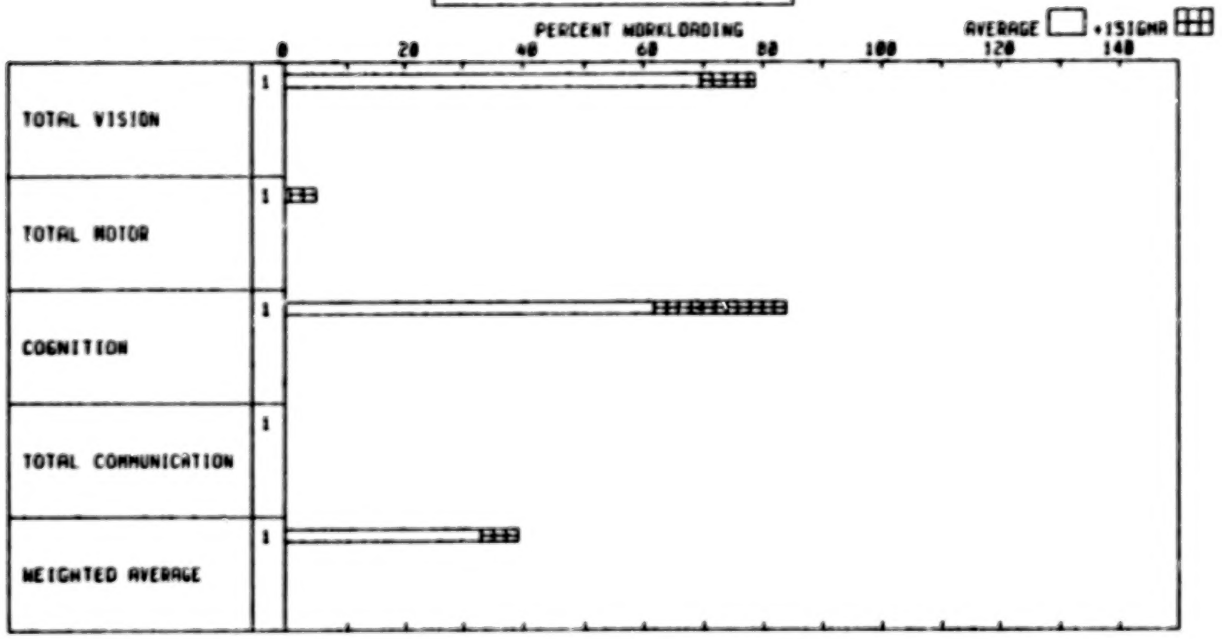
CONFIGURATION
AFD SIM DATA

FLIGHT PHASE
LONGMONT APPROACH TO LANDING WITH HOLDING PATTERN

UNSHIFTED

WORKLOAD SUMMARY
CREWMEMBER - COPILOT

OCT 19, 1978



MISSION
1 DENVER LMNTAC APP/LN WITH HOLDING PTIN -

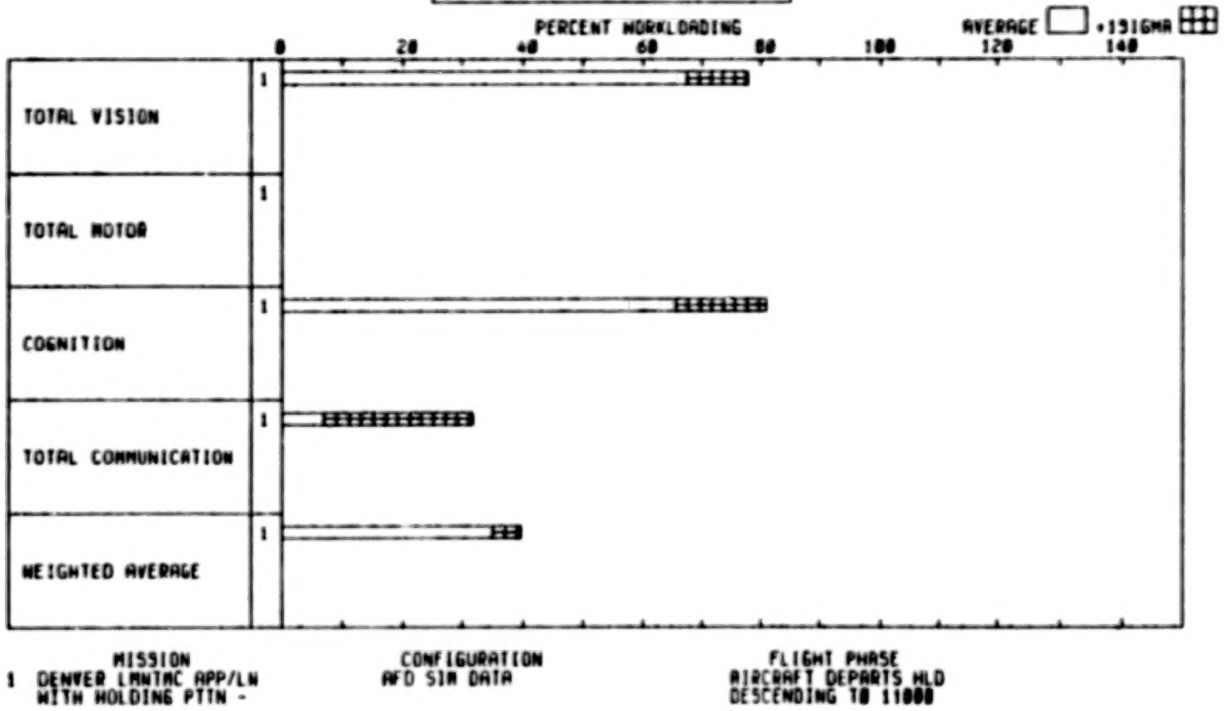
CONFIGURATION
AFD SIM DATA

FLIGHT PHASE
HOLDING PATTERN FOR LONGMONT APP BETWEEN MEEKER AND LONGMNT

UNSHIFTED

WORKLOAD SUMMARY
CREWMEMBER - COPILOT

OCT 19, 1978



MISSION
1 DENVER LANTAC APP/LN
WITH HOLDING PTTN -

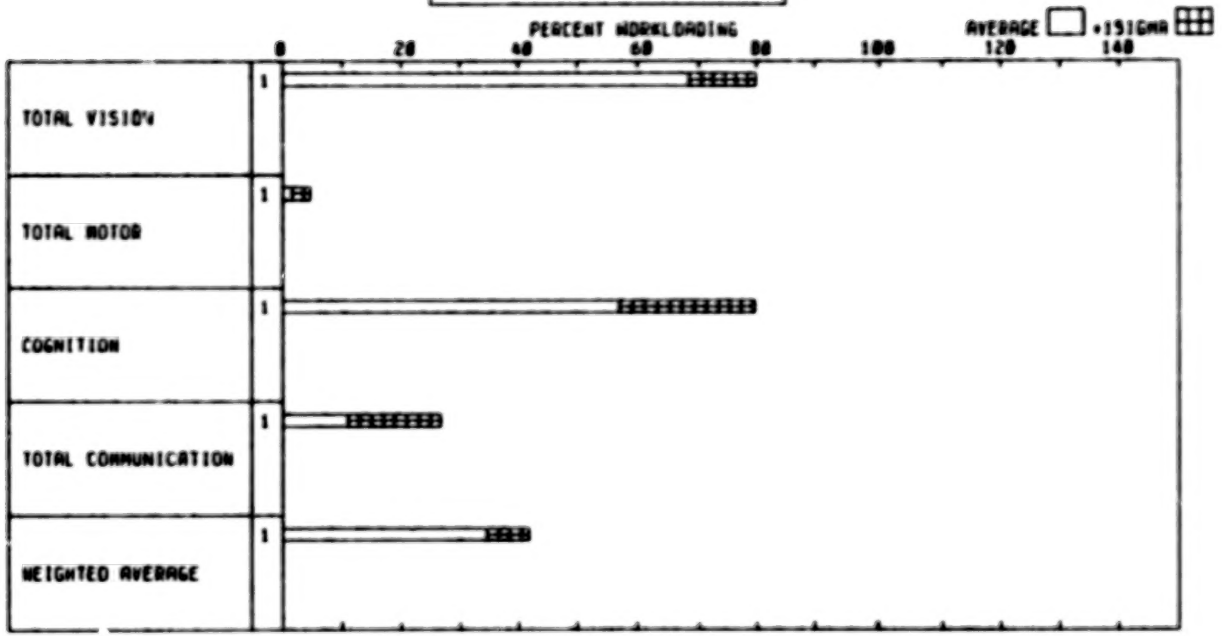
CONFIGURATION
AFD SIM DATA

FLIGHT PHASE
AIRCRAFT DEPARTS HLD
DESCENDING TO 11000

UNSHIFTED

WORKLOAD SUMMARY
CREWMEMBER - COPILOT

OCT 19, 1978



MISSION
1 DENVER LMNTNC APP/LN
WITH HOLDING PTTN -

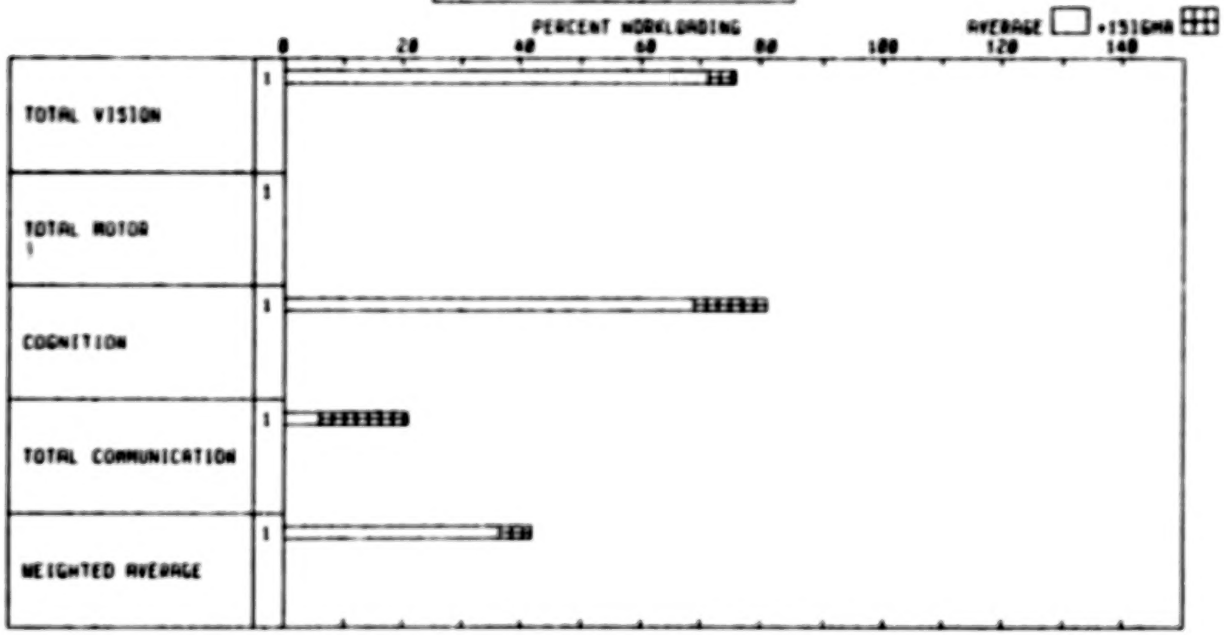
CONFIGURATION
AFD SIM DATA

FLIGHT PHASE
AIRCRAFT DESCENDS
TO 8000 AND SLOWS
TO 170 KTS

UNSHIFTED

WORKLOAD SUMMARY
CREWMEMBER - COPILOT

OCT 19, 1978

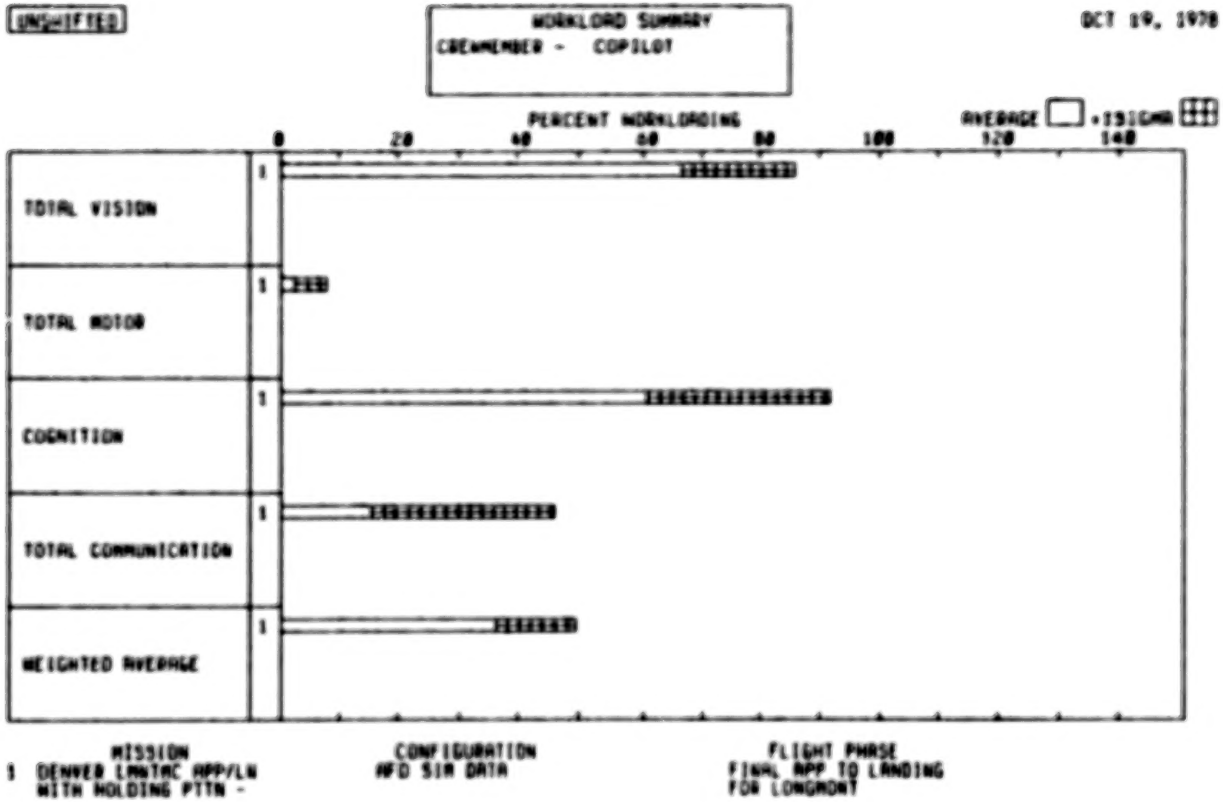


MISSION
1 DENVER LAWTAC APP/LH WITH HOLDING PTTN -

CONFIGURATION
AFD SIM DATA

FLIGHT PHASE
NORTH 1 METERING AND SPACING AREA

137


UNCLASSIFIED
WORKLOAD SUMMARY
CREWMEMBER - COPILOT
OCT 19, 1978
PERCENT WORKLOADING
AVERAGE
+1SIGMA
0
20
40
60
80
100
120
140
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 DENVER LANTAC APP/LN
WITH HOLDING PTTN -
CONFIGURATION
AFD SIM DATA
FLIGHT PHASE
FINAL APP TO LANDING
FOR LONGROW

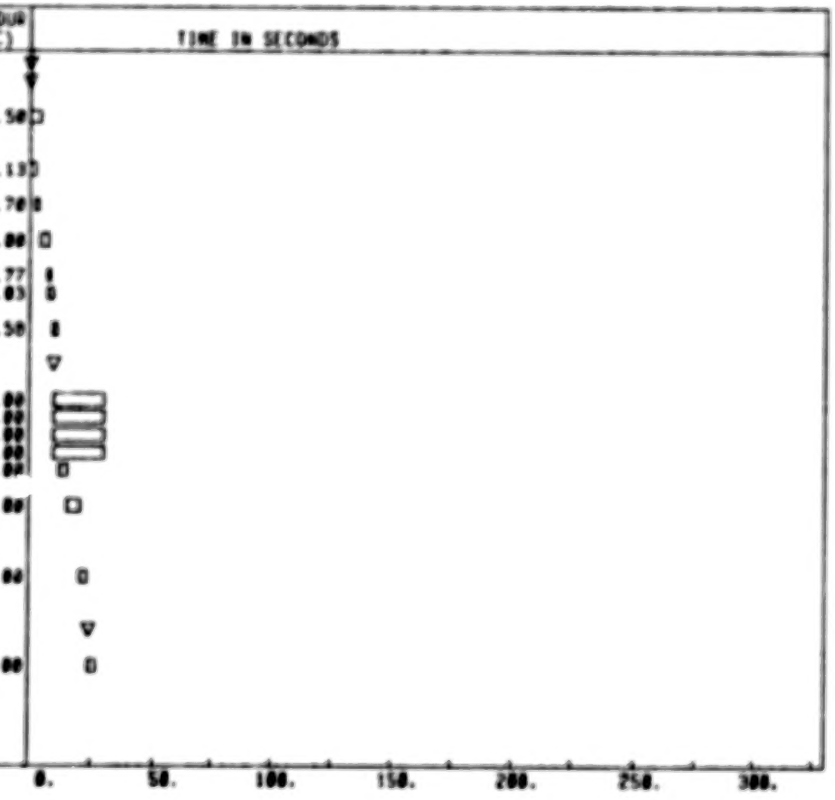
UNSHIFTED

MISSION TIMELINE

MISSION - DENVER LNGMNT APP/LN WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE - LONGMONT APPROACH TO LANDING WITH HOLDING PATTERN
CREWMEMBER - COPILOT

OCT 19, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LMNT01	START OF FLIGHT CDM	
140023	REPORT 1000 FT TO LEVEL OFF	
IPLMNT01	MSG- UNITED 76, CONTACT DENVER APRCH CNTRL ON 128.05	4.50
IH 02	MON CDRS RADIO ALT INDIC	2.13
IP140045	CALL OUT -(1000 FEET TO LEVEL OFF)	1.70
IPLMNT02	CDM- UNITED 76,ROGER - DENVER APRCH 128.05	3.00
IR 07	MON VHF-2B FREQ IND	0.77
IR 08	SET VHF-2B FREQ-MIDDLE NO.5	2.03
IR 09	SET VHF-2B FREQ-FRACTIONS	1.50
ISC205	FLIGHT INSTRUMENT SCAN - D	
SA 14	MON AIRSPEED INDIC	20.00
EX 16	MON EHSI DISPLAY	20.00
CJ 43	MON EADI	20.00
SL 04	MON IVSI INDIC	20.00
IPLMNT03	CDM- DENVER APRCH UNITED 76	3.00
IPLMNT04	MSG- UNITED76,DENVER PROCEED TO LNGMNT DESCEND MAINTAIN 16000	5.00
IPLMNT05	CDM- UNITED76 ROGER OUT OF 17 S FOR [illegible]	3.00
LMNT02	DESCENT INSTRUCTIONS TO 15000	
IPLMNT06	MSG- UNITED76 DSCND MAINTAIN 15000	3.00



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	Workload Histogram (WLH)				
	Total Vision	4	1/B1	29	1/E9
	Total Motor	5	1/B3	30	1/E11
	Cognition	6	1/B5	31	1/E13
	Total Communication	7	1/B7	32	1/F1
	Weighted Channel Average	8	1/B9	33	1/F3
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	Metering and Spacing	22	1/D9	44	1/G11
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2.2	Byers 2D Approach				
	Workload Histogram (WLH)				
	Total Vision	51	2/B1	75	2/E7
	Total Motor	52	2/B3	76	2/E9
	Cognition	53	2/B5	77	2/E11
	Total Communications	54	2/B7	78	2/E13
	Weighted Channel Average	55	2/B9	79	2/F1

SECTION NO.	TITLE	PAGE Pilot		PAGE Copilot	
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	Cruise	60	2/C5	84	2/F11
	Descent	63	2/C11	87	2/G3
	Metering and Spacing	67	2/D5	91	2/G11
	Final Approach/Landing	71	2/D13	94	3/A7
2.3	Longmont Manual Approach				
	Workload Histogram (WLH)				
	Total Vision	98	3/B1	128	3/F5
	Total Motor	99	3/B3	129	3/F7
	Cognition	100	3/B5	130	3/F9
	Total Communications	101	3/B7	131	3/F11
	Weighted Channel Average	102	3/B9	132	3/F13
	Workload Summaries (WLS)				
	Cruise	103	3/B11	133	3/G1
	Holding Pattern	104	3/B13	134	3/G3
	Descent to 11,000	105	3/C1	135	3/G5
	Descent to 8000	106	3/C3	136	3/G7
	Metering and Spacing	107	3/C5	137	3/G9
	Final Approach/Landing	108	3/C7	138	3/G11
	Mission Timeline (MTL)				
	Cruise	109	3/C9	139	3/G13
	Holding Pattern	114	3/D5	145	4/B1
	Descent to 11,000	116	3/D9	148	4/B7

SECTION NO.	TITLE	PAGE Pilot	PAGE Copilot
	Descent to 8000	1183/D13	151 4/B13
	Metering and Spacing	1213/E5	155 4/C7
	Final Approach/Landing	1243/E11	160 4/D3
2.4	Longmont 2D Approach		
	Workload Histogram (WLH)		
	Total Vision	1654/D13	195 5/B7
	Total Motor	1664/E1	196 5/B9
	Cognition	1674/E3	197 5/B11
	Total Communications	1684/E5	198 5/B13
	Weighted Channel Average	1694/E7	199 5/C1
	Workload Summaries (WLS)		
	Cruise	1704/E9	200 5/C3
	Holding Pattern	1714/E11	201 5/C5
	Descent to 11,000	1724/E13	202 5/C7
	Descent to 8000	1734/F1	203 5/C9
	Metering and Spacing	1744/F3	204 5/C11
	Final Approach/Landing	1754/F5	205 5/C13
	Mission Timeline (MTL)		
	Cruise	1764/F7	206 5/D1
	Holding Pattern	1804/G1	211 5/E1
	Descent to 11,000	1824/G5	216 5/E7
	Descent to 8000	1844/G9	219 5/E13
	Metering and Spacing	1875/A5	223 5/F7
	Final Approach/Landing	1915/A13	228 5/G3

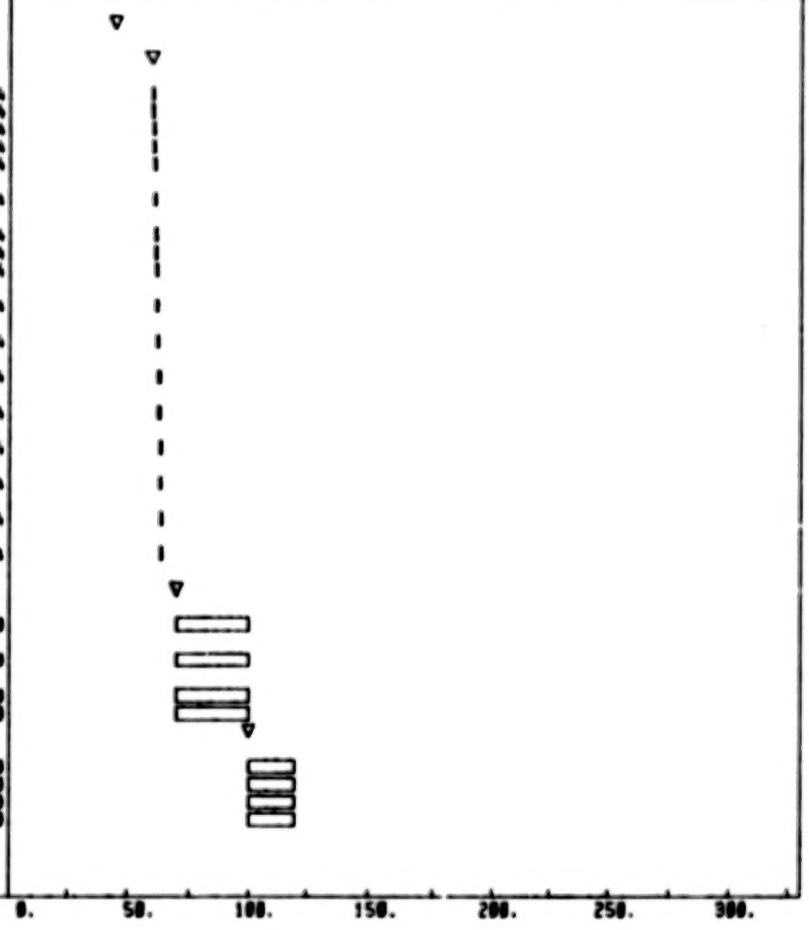
SECTION NO.	TITLE	PAGE	
		Pilot	Copilot
3.0	METERING AND SPACING DATA FILE	235 5/G13	
	Phase Library	234 6/A5	234 6/A5
	Event/Procedure Library	236 6/A9	236 6/A9
	Task Library	237 7/C1	293 7/C1
	Subsystem Library	395 9/D3	395 9/D3

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
1PLMNT07	COM- UNITED76 ROGER DESCEND TO 15000	3.00
030007	ENGINE INSTRUMENT SCAN	
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 10	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
LANT03	RECEIVE HOLDING PTN INSTRUCTIONS	
1PLMNT08	MSG- UNITED76 HOLD AT LONGMONT, EXPECT FURTHER CLEARANCE AT 16 40	5.00
19C205	FLIGHT INSTRUMENT SCAN - D	
2J 43	MON EADI	20.00
3L 04	MON IVSI INDIC	20.00
3A 14	MON AIRSPEED INDIC	20.00
2K 16	MON EHSI DISPLAY	20.00
1PLMNT09	COM- UNITED76 ROGER HOLD LONGMONT FURTHER CLEARANCE 16 40	4.50

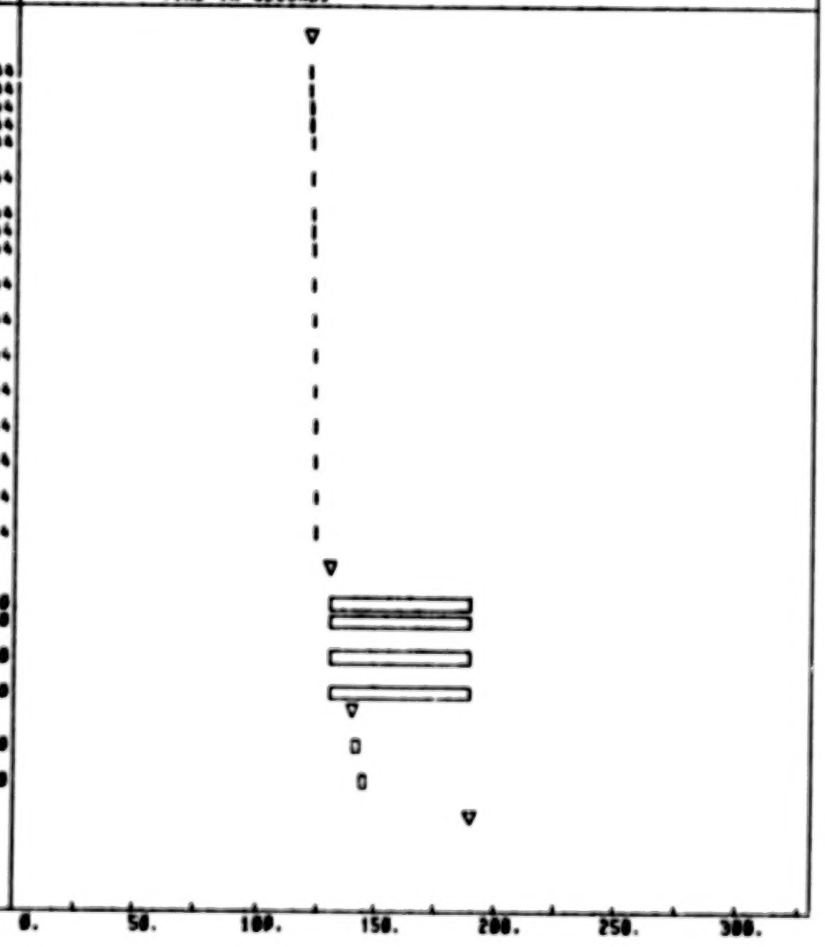
TIME IN SECONDS

0. 50. 100. 150. 200. 250. 300.

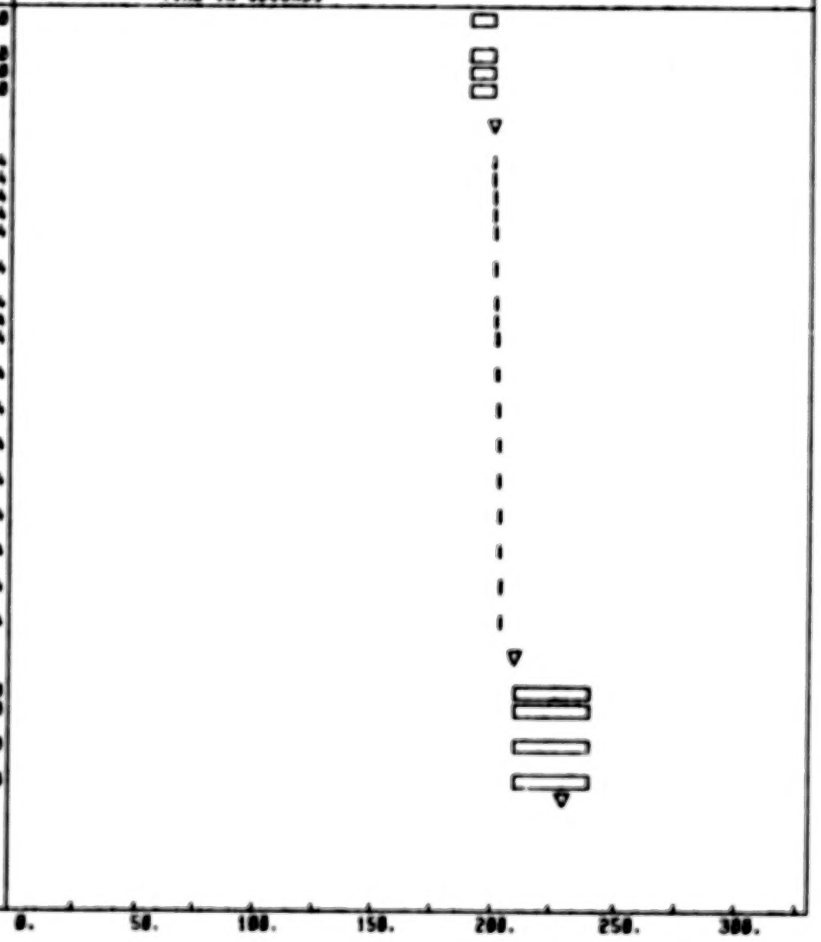
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LANNTS0	UNITED 76 REACHES 15000 AND LEVELS OFF	
030007	ENGINE INSTRUMENT SCAN	
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 28	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
ISC305	FLIGHT INSTRUMENT SCAN - E	
3L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
2J 42	MON EADI	30.00
ISC205	FLIGHT INSTRUMENT SCAN - D	
3A 14	MON AIRSPEED INDIC	20.00
2K 16	MON EHSI DISPLAY	20.00
2J 43	MON EADI	20.00
3L 04	MON IVSI INDIC	20.00



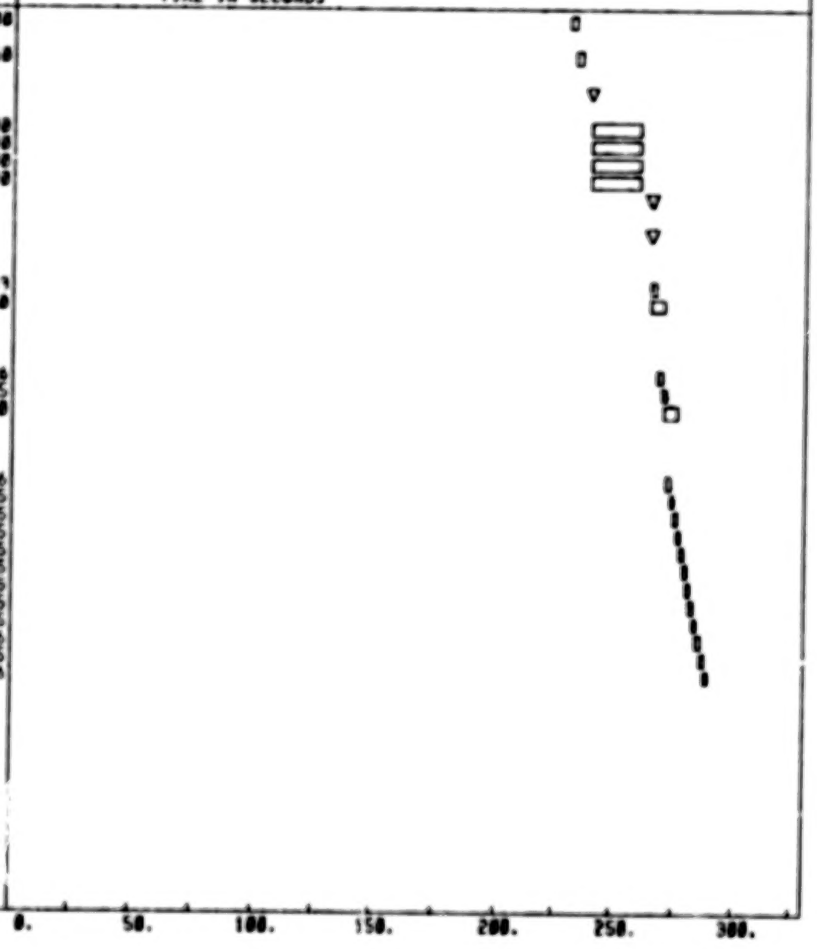
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
030007	ENGINE INSTRUMENT SCAN	
7F 30	MON ENG NO 2 EPR IND	0.44
7F 25	MON ENG NO 1 EPR IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
ISC005	FLIGHT INSTRUMENT SCAN - F	
2J 42	MON EADI	60.00
3L 02	MON VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EHSI DISPLAY	60.00
LANT04	DESCENT INSTRUCTIONS TO 14000	
IPLANT10	MSG- UNITED76 DSCND MAINTAIN 14000	3.00
IPLANT11	COM- UNITED76 ROGER CLEARED TO 14000	3.00
ISC105	FLIGHT INSTRUMENT SCAN - 0	



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
9A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MDN EHSI DISPLAY	10.00
2J 42	MDN EADI	10.00
3L 02	MDN VERTICAL SPEED INDIC	10.00
030007	ENGINE INSTRUMENT SCAN	
7F 30	MDN ENG NO 2 EPR IND	0.44
7F 25	MDN ENG NO 1 EPR IND	0.44
7F 21	MDN NO 1 ENG N1 IND	0.44
7F 22	MDN NO 2 ENG N1 IND	0.44
7F 31	MDN ENG NO 1 EXH GAS TEMP IND	0.44
7F 32	MDN ENG NO 2 EXH GAS TEMP IND	0.44
7F 23	MDN NO 1 ENG N2 IND	0.44
7F 24	MDN NO 2 ENG N2 IND	0.44
7F 33	MDN ENG NO 1 FUEL FLOW INDIC	0.44
7F 34	MDN ENG NO 2 FUEL FLOW INDIC	0.44
7F 09	MDN NO 1 ENG OIL PRESS INDIC	0.44
7F 10	MDN NO 1 ENG OIL TEMP INDIC	0.44
7F 18	MDN NO 2 ENG OIL TEMP INDIC	0.44
7F 11	MDN NO 1 ENG OIL QTY INDIC	0.44
7F 19	MDN NO 2 ENG OIL QTY INDIC	0.44
7F 12	MDN NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
7F 20	MDN NO 2 ENG VIBR AMPLITUDE INDIC	0.44
ISC305	FLIGHT INSTRUMENT SCAN - E	
2J 42	MDN EADI	30.00
3L 02	MDN VERTICAL SPEED INDIC	30.00
9A 10	MONITOR AIRSPEED INDIC	30.00
2K 14 LAN105	MDN EHSI DISPLAY RECEIVE SPEED REDUCTION TO 250 INST	30.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
1PLANT12 7	MSG- UNITED76 REDUCE SPEED TO 250KTS	3.00
1PBYBZ10	RADIO- UNITED 24, ROGER, SLOW TO 250	2.50
ISC205	FLIGHT INSTRUMENT SCAN - D	
3A 14	MON AIRSPEED INDIC	20.00
2K 16	MON EHSI DISPLAY	20.00
2J 43	MON EADI	20.00
3L 04	MON IVSI INDIC	20.00
LANT06	RECEIVE HOLDING PTN INSTRUCTIONS	
LAHLDG	COPILOT SETS UP HLDG PATTERN FOR LONGMONT INTERSECTION	
2L 07	PRESS SEL KEY	2.07
1PLANT13	MSG- UNITED76 HOLD AT LONGMONT EXPECT FURTHER CLEARANCE AT 16 40 42	5.50
2L 19	MON LINE 8 MESSAGE	2.06
2L 26	PRESS NO.1 KEY	1.35
1PLANT14	COM- UNITED76 ROGER HOLD LONGMONT EXPECT FURTHER CLEARANCE AT 16 40 42	5.50
2L 19	MON LINE 8 MESSAGE	2.06
2L 46	PRESS L KEY	1.35
2L 51	PRESS D/SID KEY	1.35
2L 50	PRESS N KEY	1.35
2L 43	PRESS G/ALT KEY	1.35
2L 49	PRESS A/GS KEY	1.35
2L 51	PRESS D/SID KEY	1.35
2L 50	PRESS N KEY	1.35
2L 56	PRESS T/PTA KEY	1.35
2L 19	MON LINE 8 MESSAGE	2.06
2L 23	PRESS CLR KEY	1.35
2L 21	PRESS EXEC KEY	1.46



UNSHIFTED

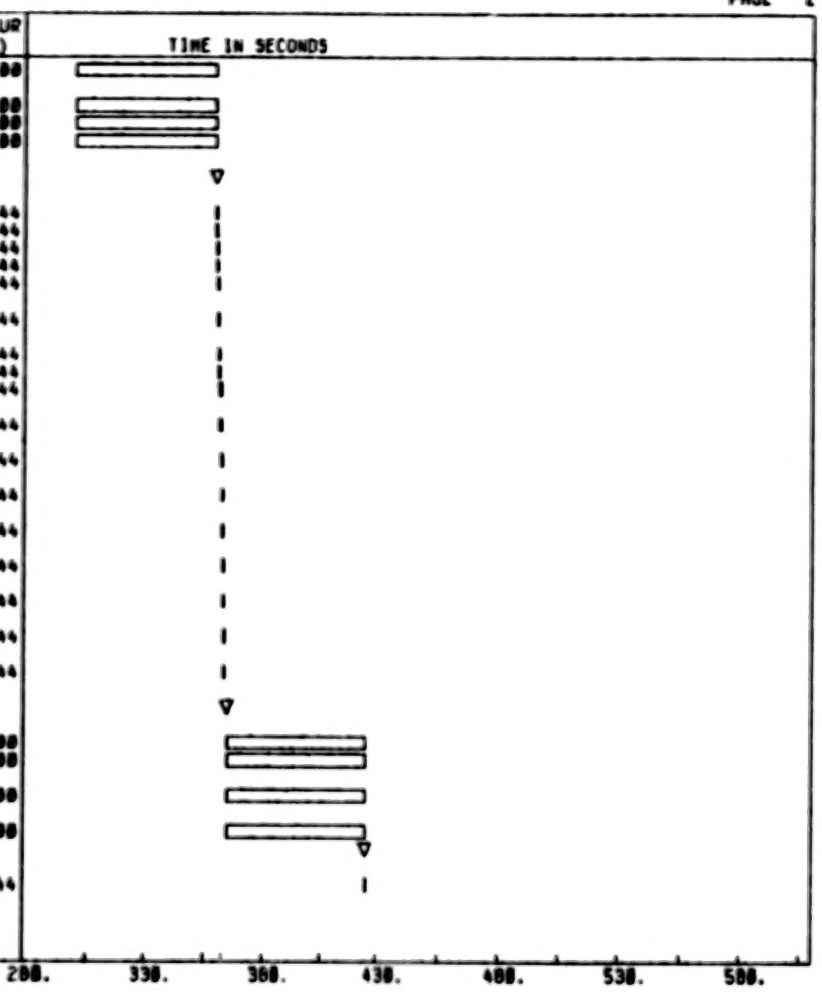
MISSION TIMELINE
MISSION - DENVER LMNTMC APP/LN WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE - HOLDING PATTERN FOR LONGMONT APP BETWEEN MEEKER AND LONGMNT
CREWMEMBER - COPILOT

OCT 19, 1978

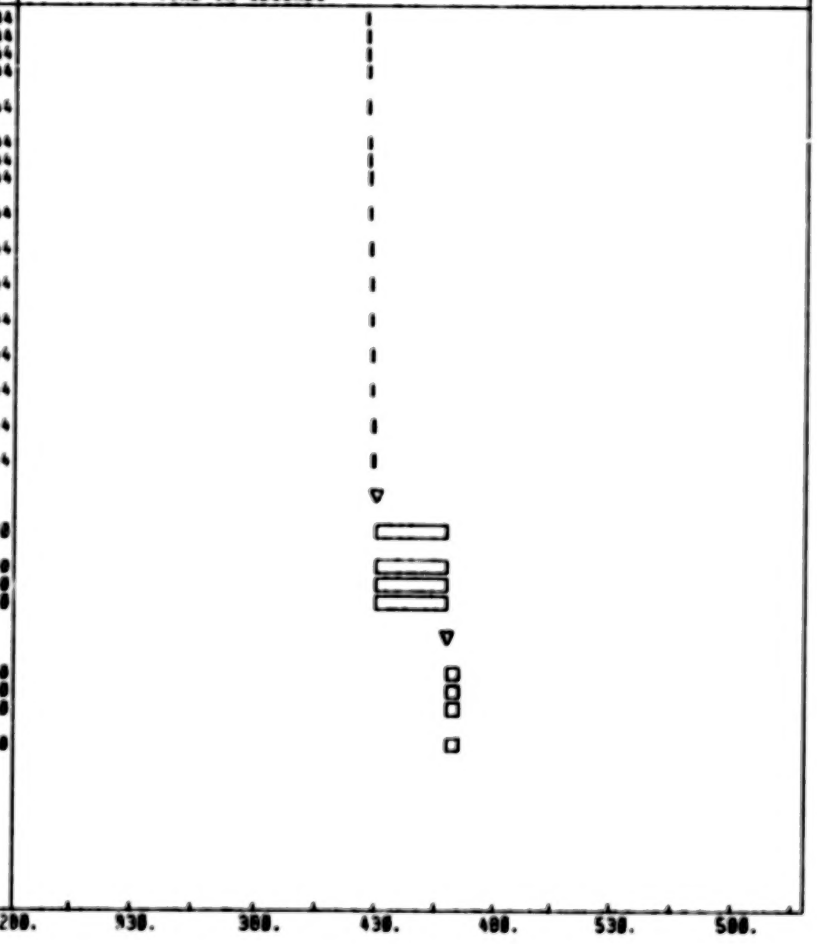
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
LMNT51	UNITED 76 CROSSES LONGMONT INTSCTN AND ENTERS HLDG PTN AT 210KTS		▽
030007	ENGINE INSTRUMENT SCAN		▽
7F 30	MON ENG NO 2 EPR IND	0.44	I
7F 25	MON ENG NO 1 EPR IND	0.44	I
7F 21	MON NO 1 ENG N1 IND	0.44	I
7F 22	MON NO 2 ENG N1 IND	0.44	I
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44	I
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44	I
7F 23	MON NO 1 ENG N2 IND	0.44	I
7F 24	MON NO 2 ENG N2 IND	0.44	I
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44	I
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44	I
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44	I
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44	I
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44	I
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44	I
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44	I
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44	I
7F 28	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44	I
ISC605	FLIGHT INSTRUMENT SCAN - F		▽

280. 330. 380. 430. 480. 530. 580.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
9A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EWSI DISPLAY	60.00
2J 42	MON EADI	60.00
3L 82	MON VERTICAL SPEED INDIC	60.00
030007	ENGINE INSTRUMENT SCAN	
7F 30	MON ENG NO 2 EPR IND	0.44
7F 25	MON ENG NO 1 EPR IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
ISC605	FLIGHT INSTRUMENT SCAN - F	
2J 42	MON EADI	60.00
3L 82	MON VERTICAL SPEED INDIC	60.00
9A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EWSI DISPLAY	60.00
030007	ENGINE INSTRUMENT SCAN	
7F 30	MON ENG NO 2 EPR IND	0.44



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
7F 25	MON ENG NO 1 EPR IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
ISC305	FLIGHT INSTRUMENT SCAN - E	
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
2J 42	MON EADI	30.00
9L 02	MON VERTICAL SPEED INDIC	30.00
ISC055	FLIGHT INSTRUMENT SCAN - A	
2K 16	MON EHSI DISPLAY	5.00
2J 42	MON EADI	5.00
9L 02	MON VERTICAL SPEED INDIC	5.00
3A 10	MONITOR AIRSPEED INDIC	5.00



1

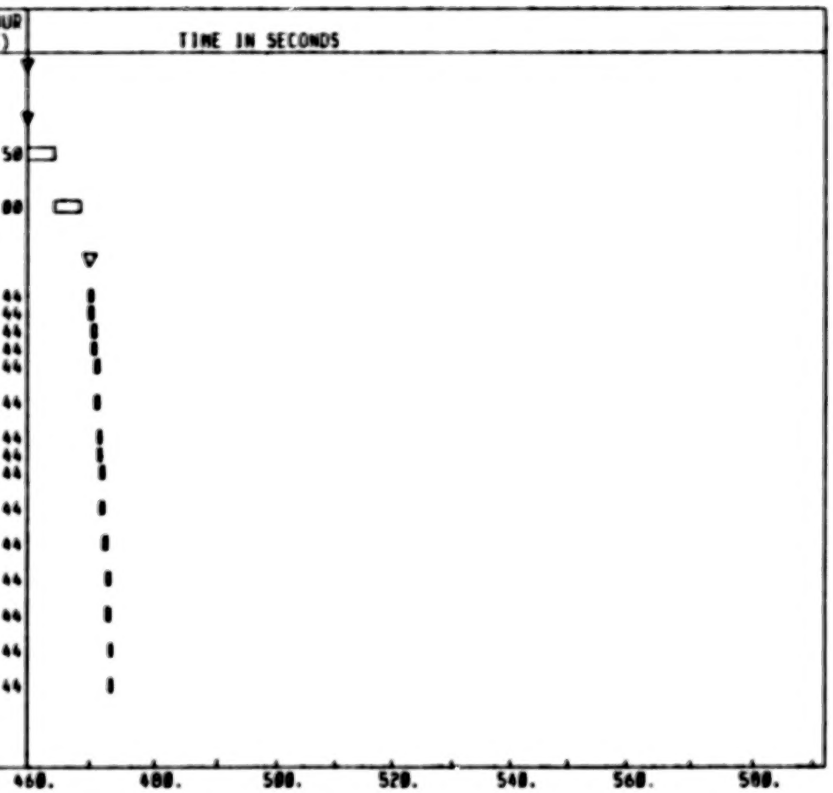
UNSHIFTED

MISSION TIMELINE
MISSION - DENVER LANTAC APP/LN
WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE -AIRCRAFT DEPARTS HLD
DESCENDING TO 11000

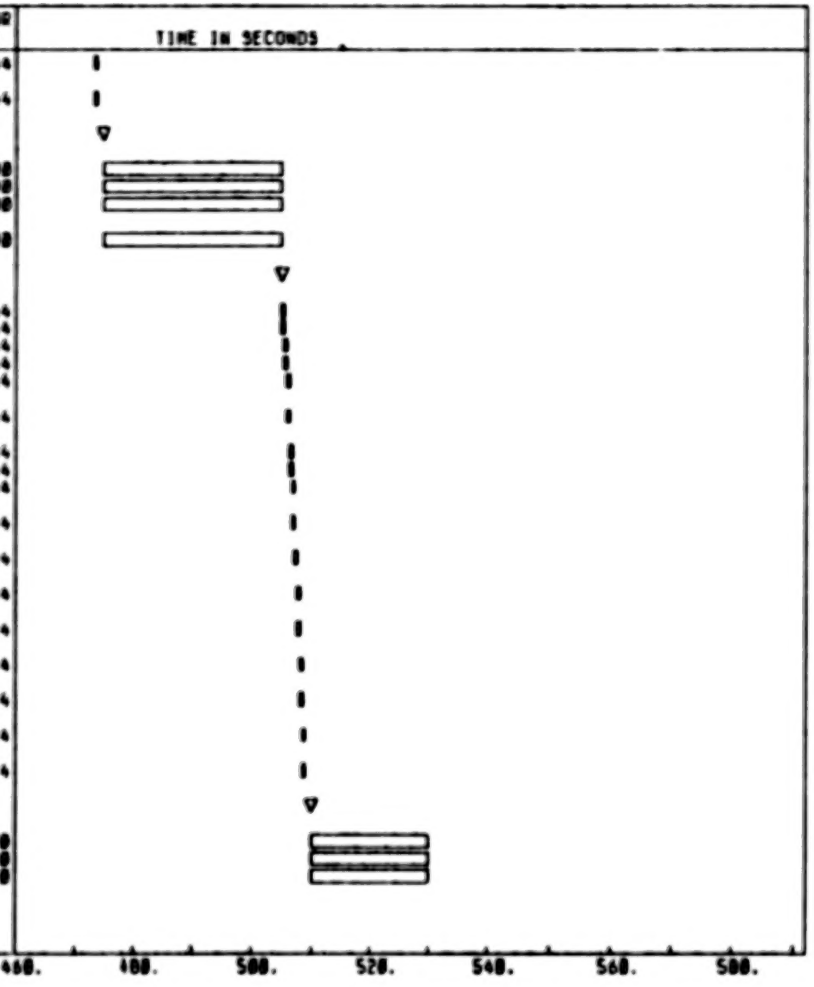
CREWMEMBER - COPILOT

OCT 19, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LANTS2	UNITED 76 DEPARTS HLDG PTN CONTINUING FLIGHT PATH	
LANT07	RECEIVE DESCENT INST AND SPEED INCREASE	
1PLANT15	MSG- UNITED76 INCRSE SPEED TO 220KTS DSCND MAINTAIN 11000	4.50
1PLANT16	COM- UNITED76 RDGER DESCEND MAINTAIN 11000 SPEED 220	4.00
030007	ENGINE INSTRUMENT SCAN	
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
I9C305	FLIGHT INSTRUMENT SCAN - E	
2K 14	MON EHSI DISPLAY	30.00
2J 42	MON EADI	30.00
3L 82	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
03B0P7	ENGINE INSTRUMENT SCAN	
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
I9C205	FLIGHT INSTRUMENT SCAN - D	
3L 04	MON IVSI INDIC	20.00
3A 14	MON AIRSPEED INDIC	20.00
2K 16	MON EHSI DISPLAY	20.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
2J 43 ISC005	MON EADI FLIGHT INSTRUMENT SCAN - F	20.00	
9A 10	MONITOR AIRSPEED INDIC	60.00	
2K 15	MON EHSI DISPLAY	60.00	
2J 42	MON EADI	60.00	
9L 02	MON VERTICAL SPEED INDIC	60.00	

460. 480. 500. 520. 540. 560. 580.

UNSHIFTED

MISSION TIMELINE
MISSION - DENVER LANTNG APP/LN WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE -AIRCRAFT DESCENDS TO 8000 AND SLOWS TO 170 KTS
CREWMEMBER - COPILOT

OCT 19, 1978

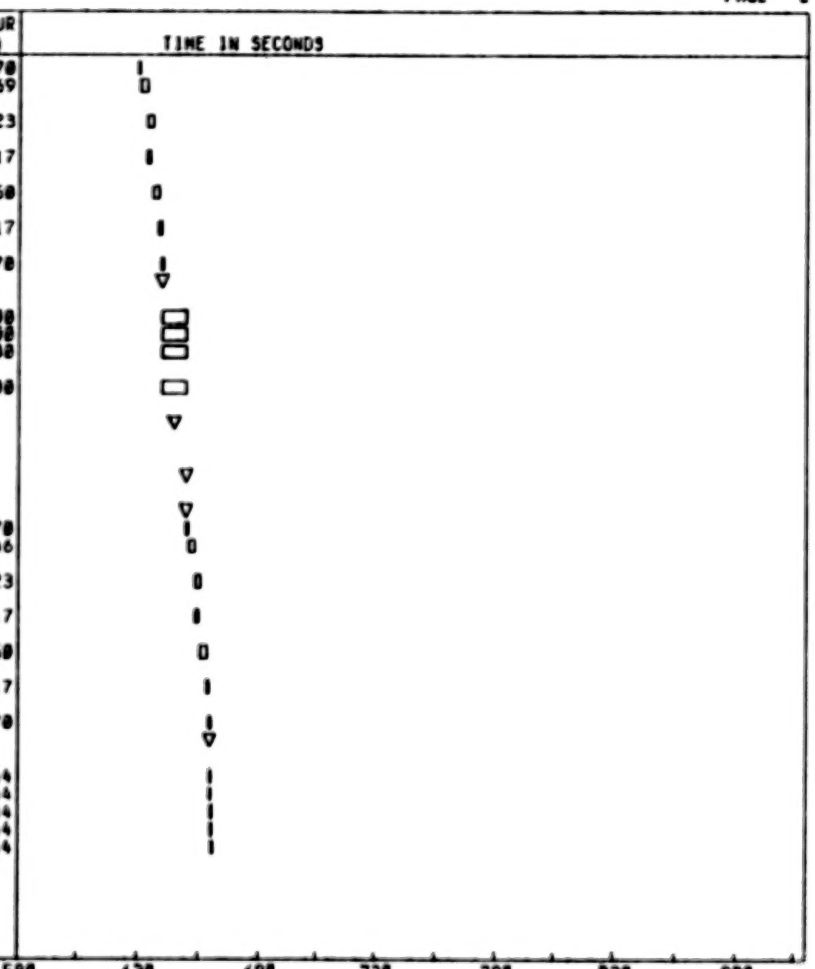
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LANTS3	UNITED 76 CROSSES BRIGHTON INTSCTN < 11000, LEVELS OFF AND SLOWS TO 170	
LANT80	RECEIVE SPEED REDUCTION INSTRUCTIONS-170	
1PLANT17	MSG- UNITED76 REDUCE SPEED TO 1 KTS	3.00
ISCISS	FLIGHT INSTRUMENT SCAN - C	
3A 14	MON AIRSPEED INDIC	15.00
2K 16	MON EHSI DISPLAY	15.00
2J 43	MON EADI	15.00
3L 04	MON IVSI INDIC	15.00
1PLANT10	COM- UNITED76 ROGER SLOW TO 170	2.50
160011	SET FLAPS TO FLAPS 1	
1P 10	MON VERBAL REPORT	0.70
4E 07	SET FLAP CONT LEVER TO FLAPS 1	2.69
4E 15	MONITOR FLAP POSITION INDICATOR	2.23
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50
1P160050	CALL OUT -[FLAPS 1]	0.70
ISCISS	FLIGHT INSTRUMENT SCAN - C	
2J 43	MON EADI	15.00
3L 04	MON IVSI INDIC	15.00
3A 14	MON AIRSPEED INDIC	15.00
2K 16	MON EHSI DISPLAY	15.00
160017	SET FLAPS TO FLAPS 5	
160010	FLAP SET PROCEDURE	

TIME IN SECONDS

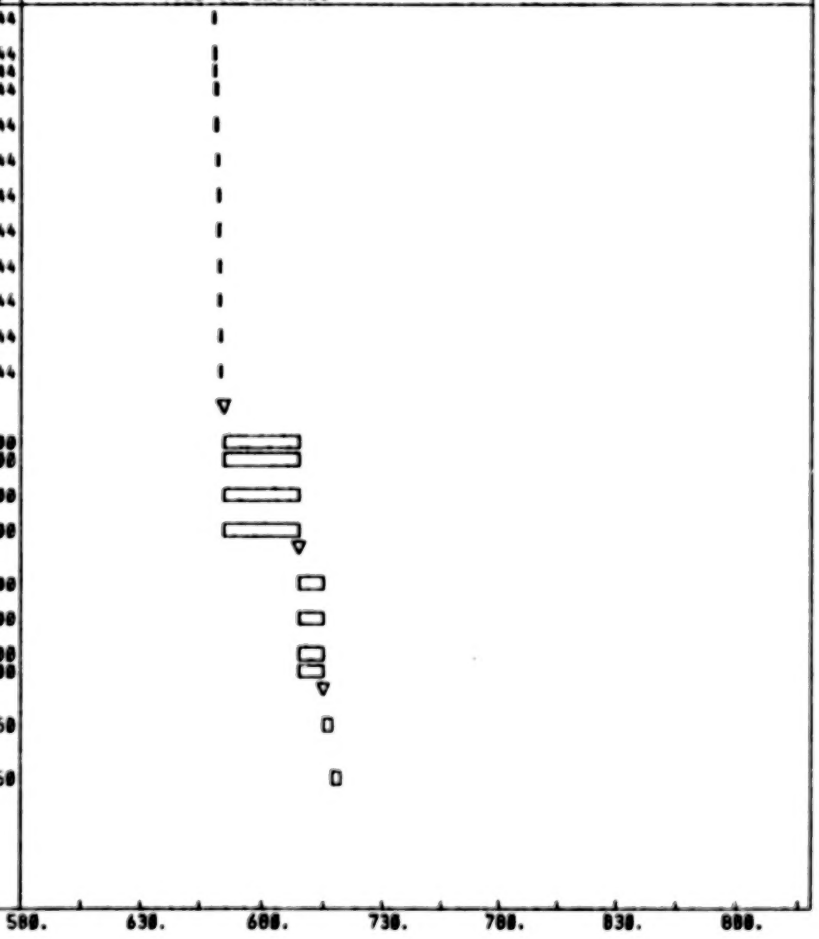
500. 630. 600. 730. 700. 830. 800.

151

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
1P 10	MON VERBAL REPORT	0.70
4E 09	SET FLAP CONT LEVER TO FLAPS 5	2.69
4E 15	MONITOR FLAP POSITION INDICATOR	2.23
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17
1P160061	CALL OUT -(FLAPS 5)	0.70
[SC105	FLIGHT INSTRUMENT SCAN - 0	
2K 14	MON EHSI DISPLAY	10.00
2J 42	MON EADI	10.00
9L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
LNNTS4	UNITED 76 REACHES 170KTS AND RESUMES DESCENT TO 0000	
160025	SET FLAPS TO FLAPS 15	
160018	FLAP SET PROCEDURE	
1P 10	MON VERBAL REPORT	0.70
4E 11	SET FLAP CONT LEVER TO FLAPS 15	2.46
4E 15	MONITOR FLAP POSITION INDICATOR	2.23
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17
1P160062	CALL OUT -(FLAPS 15)	0.70
030007	ENGINE INSTRUMENT SCAN	
7F 30	MON ENG NO 2 EPR IND	0.44
7F 25	MON ENG NO 1 EPR IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44

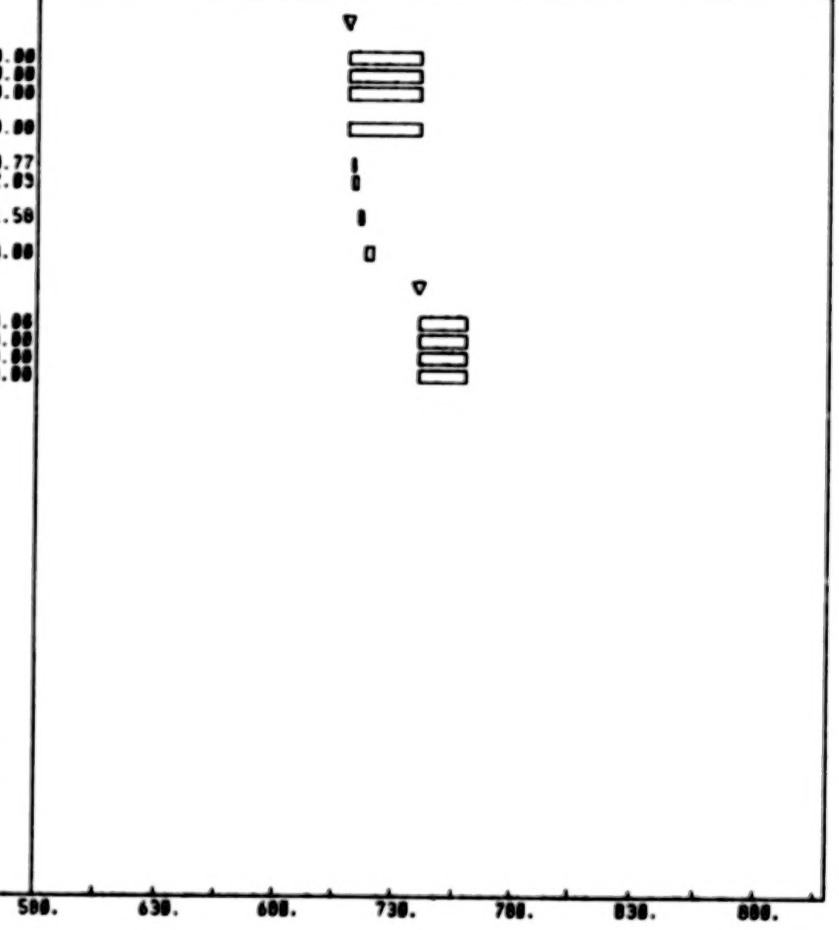


CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 10	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
ISC305	FLIGHT INSTRUMENT SCAN - E	
2J 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EWSI DISPLAY	30.00
ISC105	FLIGHT INSTRUMENT SCAN - D	
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EWSI DISPLAY	10.00
2J 42	MON EADI	10.00
LWNT09	CONTACT DENVER LCL CONTROL 118.3	
1PLMNT19	MSG- UNITED76 CONTCT DENVER LOCAL CONTROL ON 118.3	3.50
1PLMNT20	COM- UNITED76 ROGER CONTACT DENVER LOCAL 118.3	3.50



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
ISC305	FLIGHT INSTRUMENT SCAN - E	
2K 14	MON EHSI DISPLAY	30.00
2J 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
1R 07	MON VHF-2R FREQ IND	0.77
1R 08	SET VHF-2R FREQ-WHOLE NO.S	2.05
1R 09	SET VHF-2R FREQ-FRACTIONS	1.50
1PLMNT03	COM- DENVER APRCH UNITED 76	3.00
ISC205	FLIGHT INSTRUMENT SCAN - D	
2J 43	MON EADI	20.00
3L 04	MON IVSI INDIC	20.00
3A 14	MON AIRSPEED INDIC	20.00
2K 16	MON EHSI DISPLAY	20.00

TIME IN SECONDS



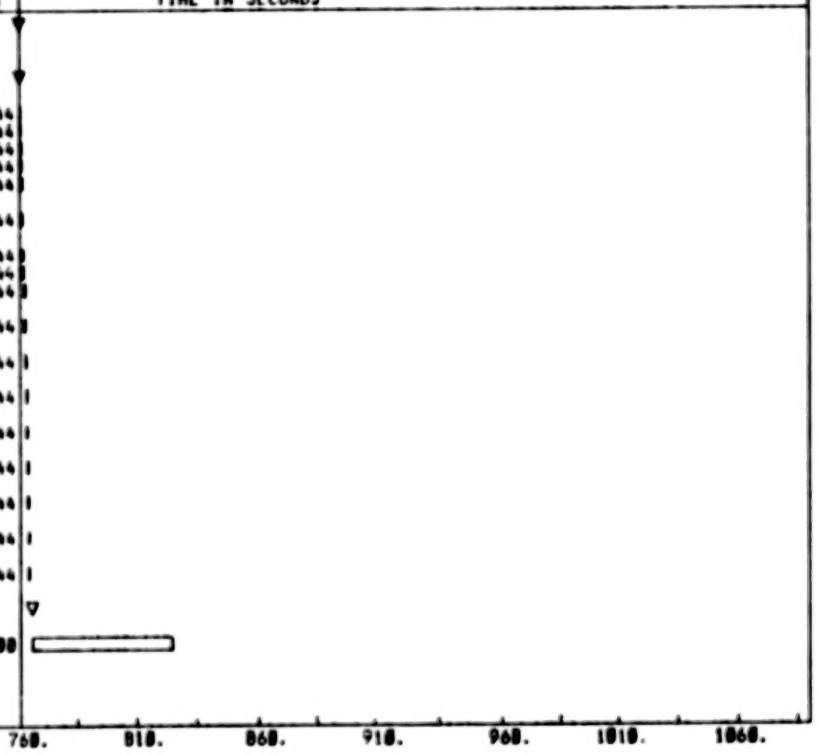
UNSHIFTED

MISSION TIMELINE
MISSION - DENVER LANTMC APP/LN
WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE -NORTH 1 METERING AND
SPACING AREA

CREWMEMBER - COPILOT

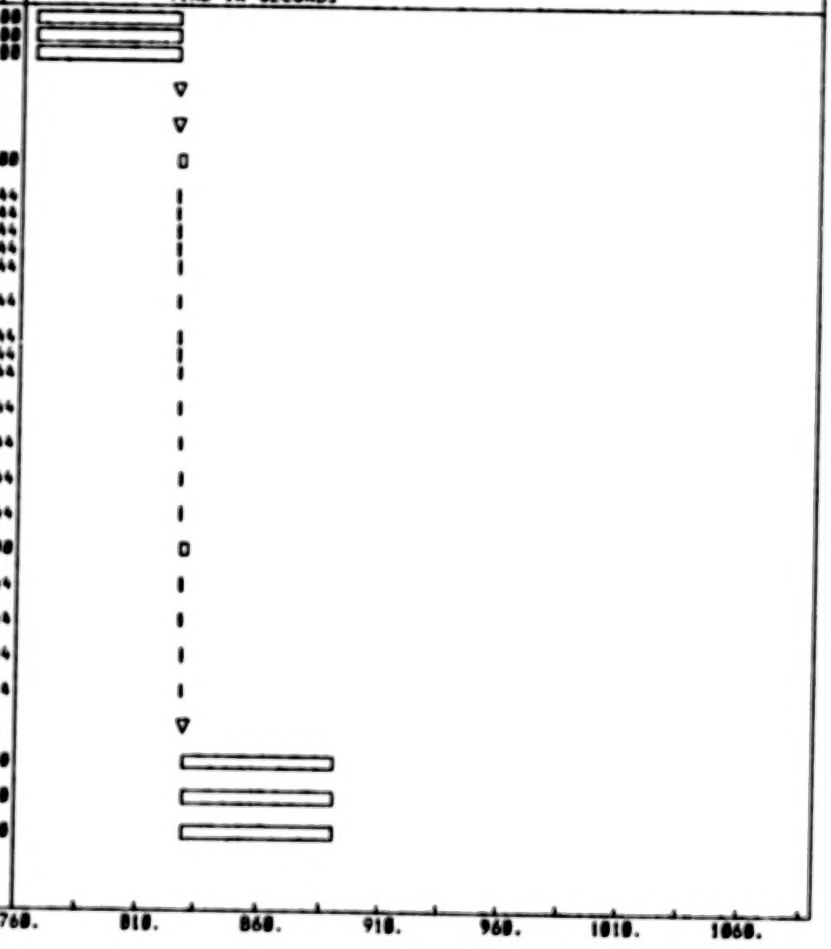
OCT 19, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LANTSS	UNITED 76 CROSSES NORTH1 INISCTN < 17[illegible] 170KTS AND 8000	
030007	ENGINE INSTRUMENT SCAN	
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
ISC605	FLIGHT INSTRUMENT SCAN - F	
9A 10	MONITOR AIRSPEED INDIC	60.00

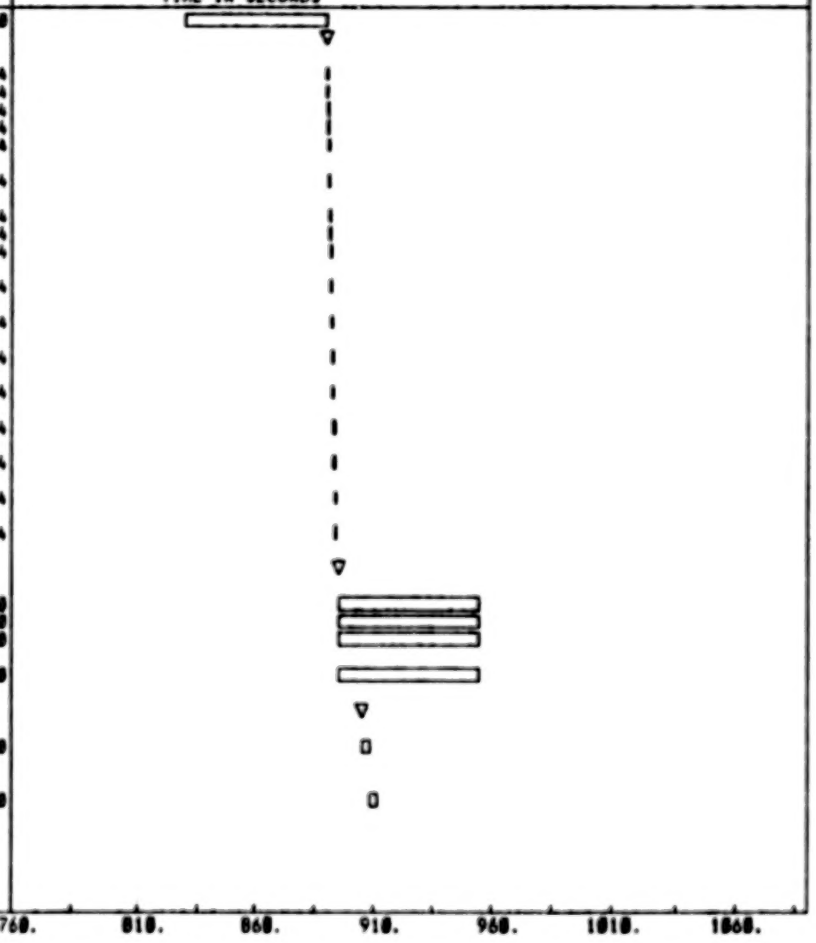


155

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
2K 15	MON EHSI DISPLAY	60.00
2J 42	MON EADI	60.00
3L 02	MON VERTICAL SPEED INDIC	60.00
LANT10	RECEIVE INST TO FLY DIRECT ALTURA	
030007	ENGINE INSTRUMENT SCAN	
1PLANT21	MSG- UNITED76 FLY DIRECT TO ALTURA	3.00
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 18	MON NO 1 ENG OIL TEMP INDIC	0.44
1PLANT22	COM- UNITED76 ROGER DIRECT TO ALTURA	3.00
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 28	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
ISC005	FLIGHT INSTRUMENT SCAN - F	
3L 02	MON VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EHSI DISPLAY	60.00

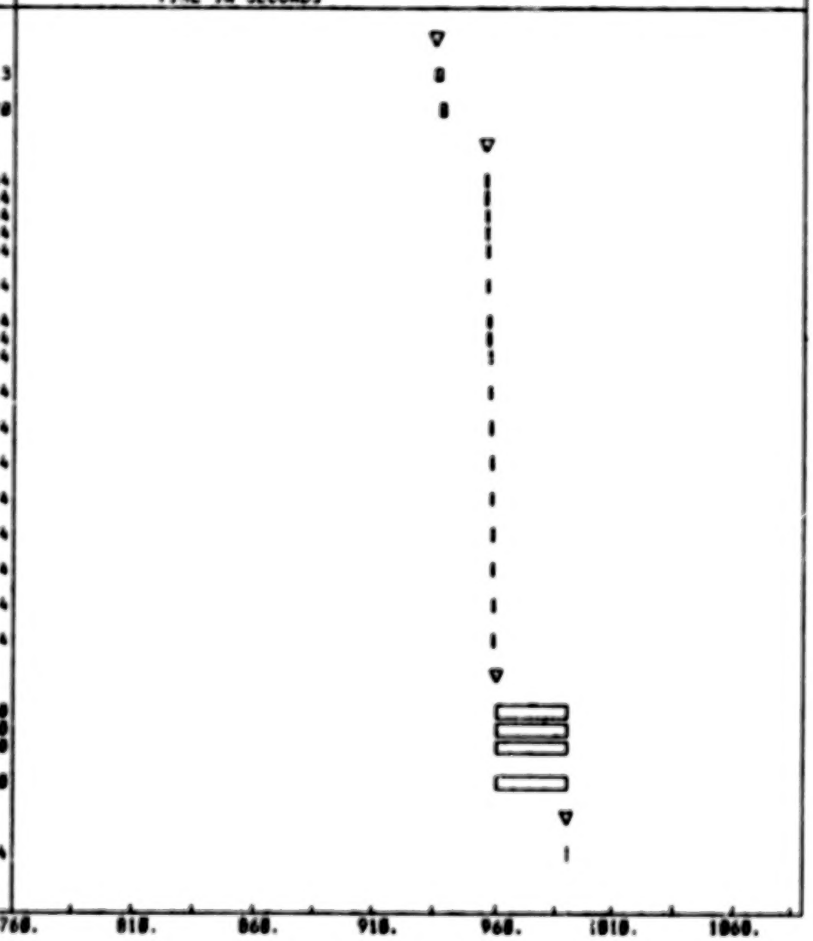


CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
2J 42 030007	MON EADI ENGINE INSTRUMENT SCAN	60.00
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
ISC005	FLIGHT INSTRUMENT SCAN - F	
2K 15	MON EHSI DISPLAY	60.00
2J 42	MON EADI	60.00
3L 02	MON VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
LANT11	RECEIVE INST TO FLY DIRECT TO GATE	
1PLANT23	MSG- UNITED76 FLY DIRECT TO APPROACH GATE	3.50
1PLANT24	COM- UNITED76 ROGER DIRECT TO GATE	3.00



157

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
140823	REPORT 1000 FT TO LEVEL OFF	
9H 02	MON CORD BARO ALT INDIC	2.13
1P140845	CALL OUT -[1000 FEET TO LEVEL OFF]	1.70
050007	ENGINE INSTRUMENT SCAN	
7F 25	MON ENG NO 1 EPR IND	0.44
7F 50	MON ENG NO 2 EPR IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 28	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
ISC305	FLIGHT INSTRUMENT SCAN - E	
ZK 14	MON EHSI DISPLAY	30.00
ZJ 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
050007	ENGINE INSTRUMENT SCAN	
7F 25	MON ENG NO 1 EPR IND	0.44



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
7F 30	MON ENG NO 2 EPR IND	0.44	
7F 22	MON NO 2 ENG N1 IND	0.44	
7F 21	MON NO 1 ENG N1 IND	0.44	
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44	
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44	
7F 24	MON NO 2 ENG N2 IND	0.44	
7F 23	MON NO 1 ENG N2 IND	0.44	
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44	
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44	
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44	
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44	
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44	
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44	
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44	
7F 28	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44	
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44	

760. 810. 860. 910. 960. 1010. 1060.

UNSHIFTED

MISSION TIMELINE
MISSION - DENVER LNNINC APP/LN
WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE - FINAL APP TO LANDING
FOR LONGMONT

CREWMEMBER - COPILOT

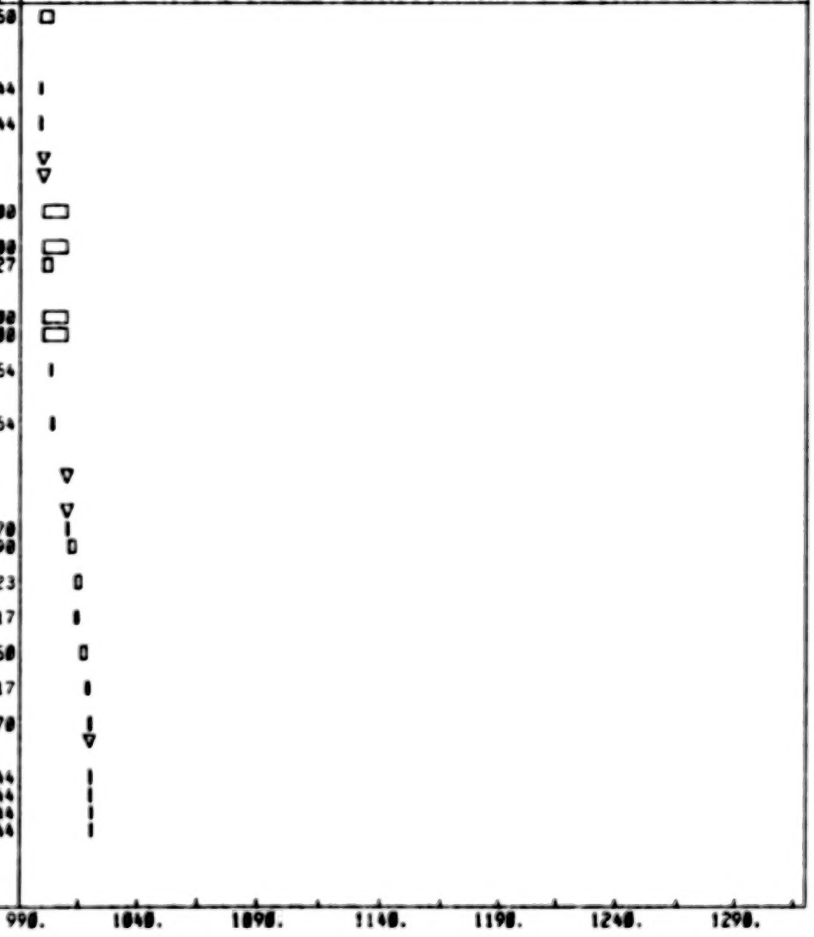
OCT 19, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LMNTS6	U 76 CROSSES GATE SETS FLAPS TO 25 SLOWS TO APRCH SPD	
LMNT12	RECEIVE INST TO SLOW TO APRCH SPEED AND CALL TOWER AT O.M.	
1PLMNT25	MSG- UNITED76 REDUCE TO APPROACH SPEED CONTACT TWR AT O.M. ON120.0	5.50
030007	ENGINE INSTRUMENT SCAN	
7F 25	MON ENG NO 1 EPR IND	0.44
7F 90	MON ENG NO 2 EPR IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44

TIME IN SECONDS

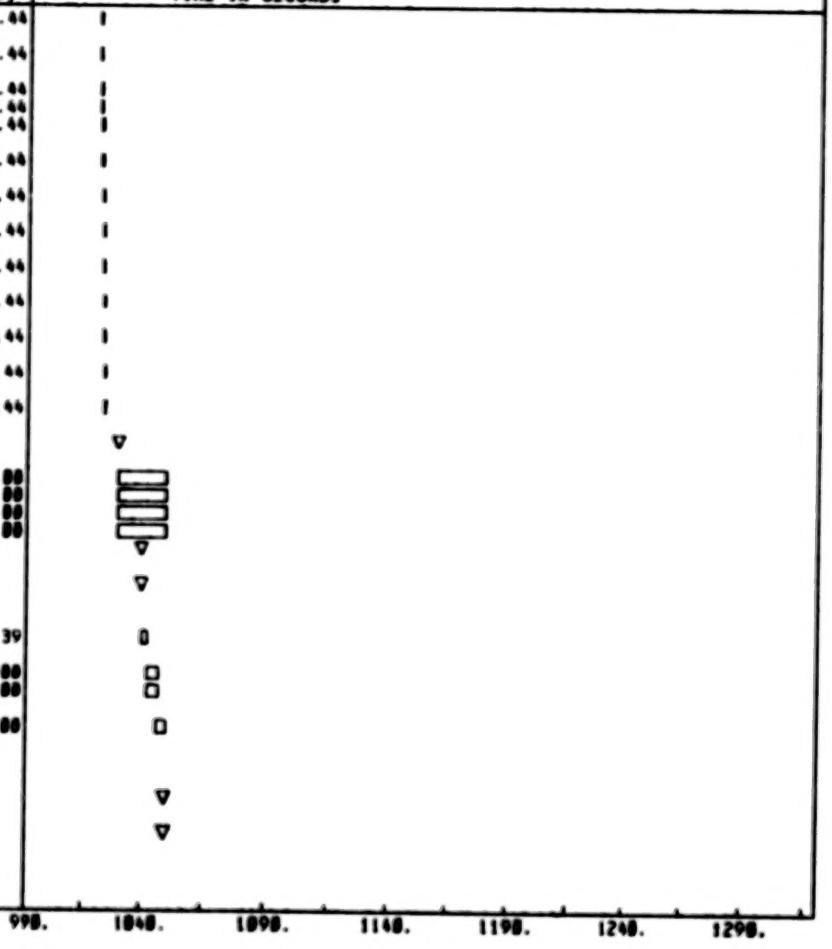
990. 1040. 1090. 1140. 1190. 1240. 1290.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
1PLMNT26	CDN- UNITED76 ROGER SLOW TO APPROACH SPD CONTACT TOWER 128.0 AT O.M.	5.50	
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44	
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44	
160060	EXTEND LANDING GEAR		
ISC105	FLIGHT INSTRUMENT SCAN - B		
3A 10	MONITOR AIRSPEED INDIC	10.00	
2K 14	MON EHSI DISPLAY	10.00	
4D 03	SET LANDING GEAR LEVER TO DOWN POSITION	5.27	
2J 42	MON EADI	10.00	
3L 02	MON VERTICAL SPEED INDIC	10.00	
4D 05	MONITOR NOSE GEAR DOWN AND LOCKED LT ON	0.54	
4D 09	MONITOR LEFT/RT GEAR DOWN AND LOCKED LT ON	0.54	
160053	SET FLAPS TO FLAPS 25		
160018	FLAP SET PROCEDURE		
1P 10	MON VERBAL REPORT	0.70	
4E 12	SET FLAP CONT LEVER TO FLAPS 25	2.90	
4E 15	MONITOR FLAP POSITION INDICATOR	2.23	
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17	
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50	
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17	
1P160070	CALL OUT -(FLAPS 25)	0.70	
030007	ENGINE INSTRUMENT SCAN		
7F 30	MON ENG NO 2 EPR IND	0.44	
7F 25	MON ENG NO 1 EPR IND	0.44	
7F 21	MON NO 1 ENG N1 IND	0.44	
7F 22	MON NO 2 ENG N1 IND	0.44	

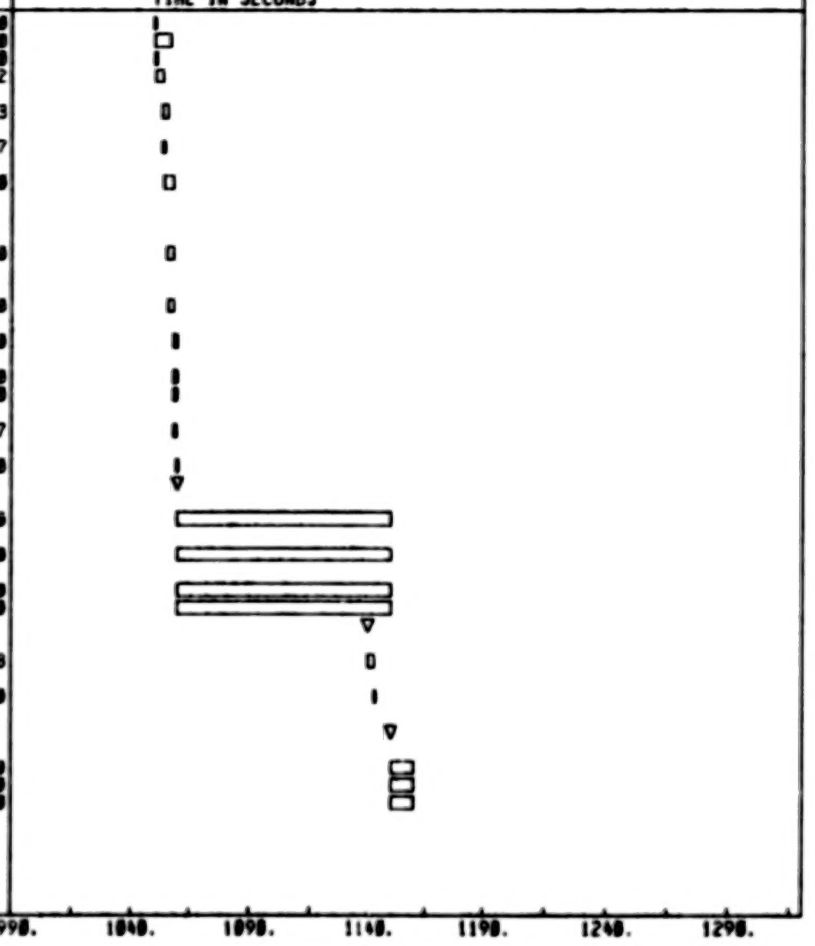


CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
7F 31	MON ENG NO 1 EXH GAS TEMP IND	8.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	8.44
7F 23	MON NO 1 ENG N2 IND	8.44
7F 24	MON NO 2 ENG N2 IND	8.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	8.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	8.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	8.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	8.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	8.44
7F 11	MON NO 1 ENG OIL QTY INDIC	8.44
7F 19	MON NO 2 ENG OIL QTY INDIC	8.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	8.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	8.44
ISC205	FLIGHT INSTRUMENT SCAN - D	
2J 43	MON EADI	20.00
3L 04	MON IVSI INDIC	20.00
3A 14	MON AIRSPEED INDIC	20.00
2K 16	MON EHSI DISPLAY	20.00
LANTS7	UNITED 76 CROSSES O.M. SETS FLAPS 40	
LNDCLR	CONTACT TOWER FOR FINAL LANDING CLEARANCE	
1B 05	SET VHF-2 COMM TFR SW TO LEFT	2.39
1B 17	COMM VIA VHF-2	5.00
1B 25	ACT PUSH-TO-TALK SW ON CONTROL HANDGRIP	5.00
1PLNDCL2	RADIO COMM-(DENVER TOWER, THIS IS U 24 OVER THE GATE INBOUND FOR LNDNG	4.00
160857	SET FLAPS TO FLAPS 40	
160810	FLAP SET PROCEDURE	

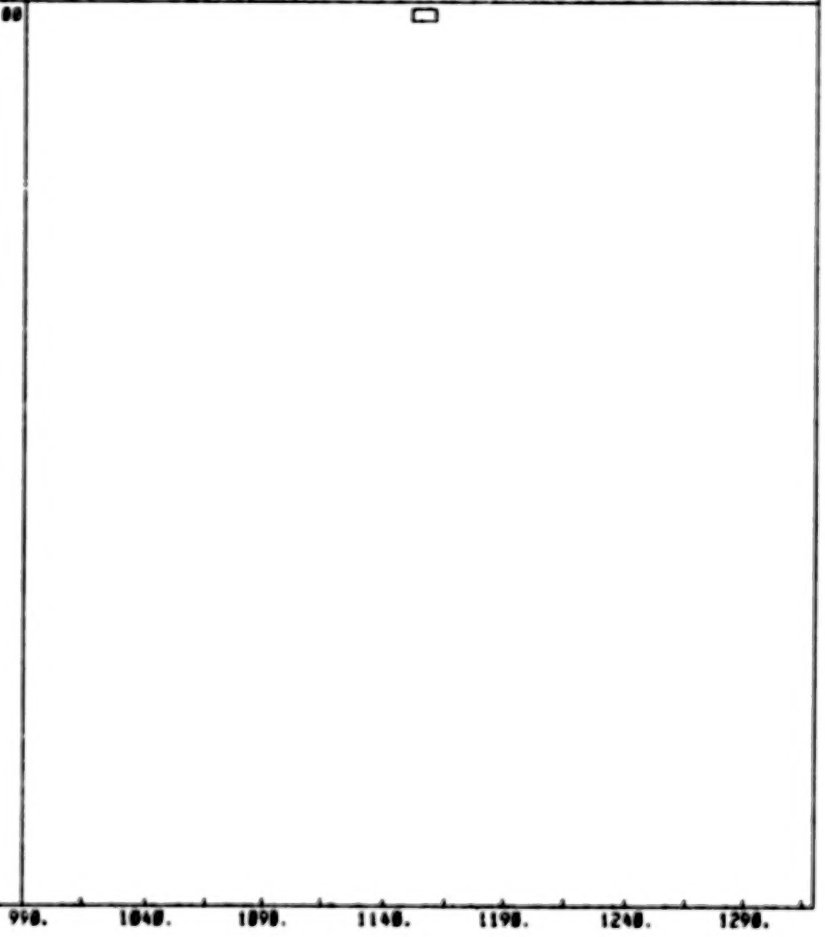
TIME IN SECONDS



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
1P 10	MON VERBAL REPORT	0.70
1B 19	MON VHF-2 COMM AUDIO	7.00
1PLNDCL3	ZERO EIGHT, OVER]	1.00
4E 14	SET FLAP CONT LEVER TO FLAPS 40	2.92
4E 15	MONITOR FLAP POSITION INDICATOR	2.23
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17
1PLNDCL4	MON RADIO COMM - (UNITED 24, DENVER TOWER, ROGER, CLEAR TO LAND RUNWAY TWO	4.00
1PLNDCL5	SIX , WIND TWO ONE ZERO DEGREES AT ZERO NINER.)	3.00
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50
1B 29	ACTUATE COMM 2 PUSH-TO-TALK SW	1.70
1B 15	COMM VIA VHF-2	1.70
1PLNDCL1	RADIO COMM - (U24, ROGER)	1.70
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17
1P168073	CALL OUT -(FLAPS 40]	0.70
ISC905	FLIGHT INSTRUMENT SCAN - G	
3L 03	MON VERTICAL SPEED INDIC	90.00
3A 11	MONITOR AIRSPEED INDIC	90.00
2K 15	MON EHSI DISPLAY	90.00
2J 43	MON EADI	90.00
168065	DESCEND THRU -DECISION HEIGTH	
3R 12	MON DECISION HGT LT ON FDI	2.50
1P168086	CALL OUT -(DECISION WEIGHT)	0.00
ISC105	FLIGHT INSTRUMENT SCAN - B	
2K 14	MON EHSI DISPLAY	10.00
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00



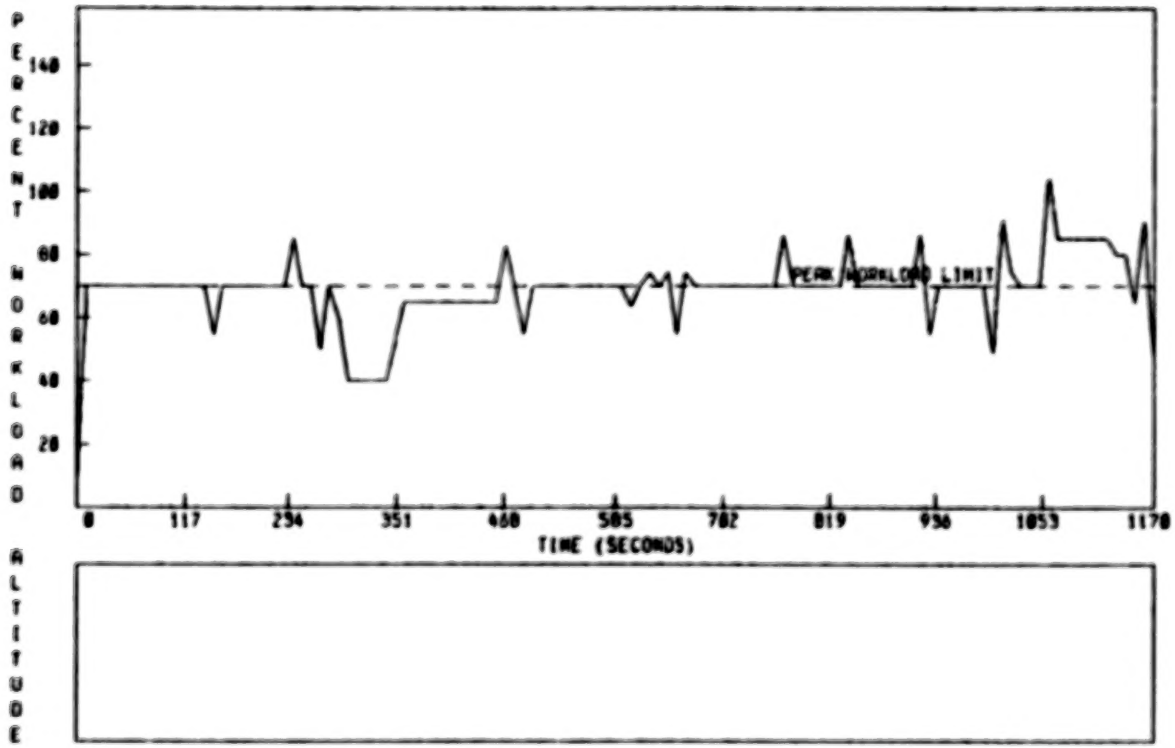
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
3A 10	MONITOR AIRSPEED INDIC	10.00	



UNSHIFTED
OCT 19, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- TOTAL VISION
CONFIGURATION- AFD SIM DATA

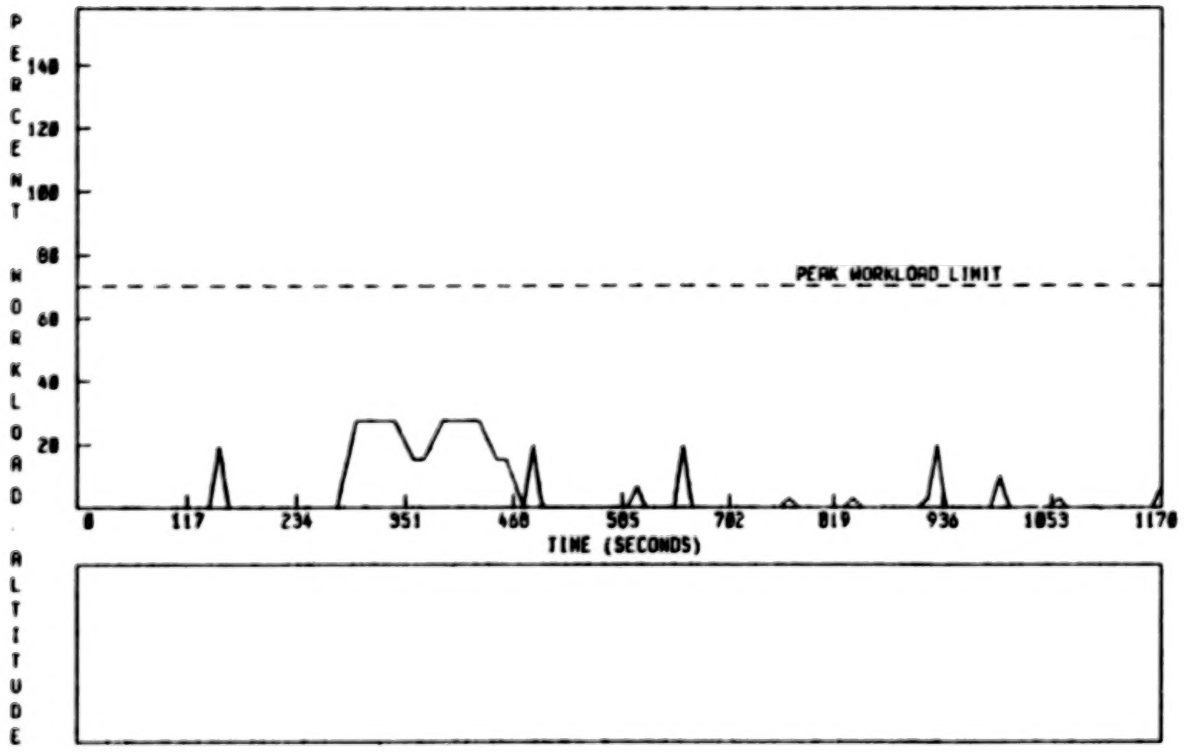
MISSION
DENVER LAWTZD APP/LN
WITH HOLDING PTTN -

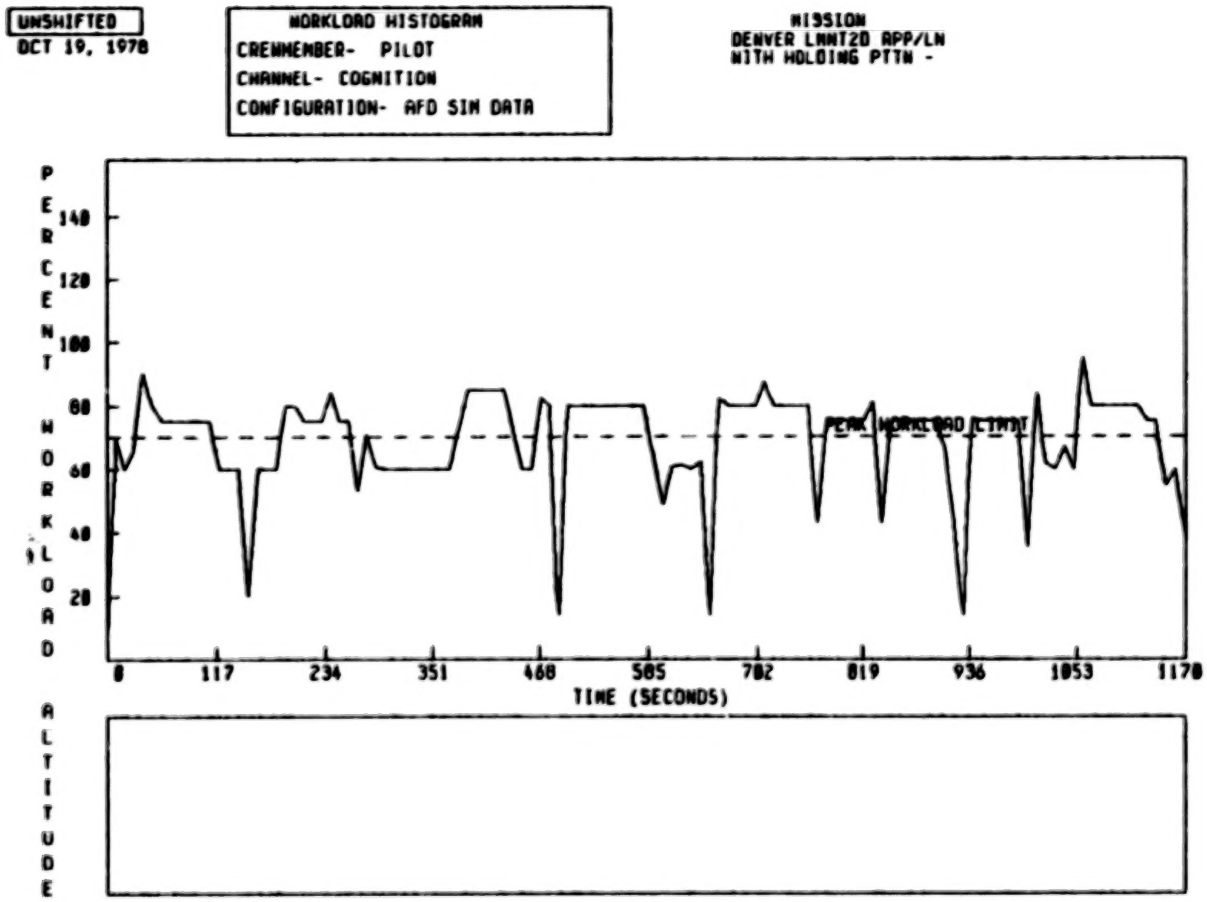


UNSHIFTED
OCT 19, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- TOTAL MOTOR
CONFIGURATION- AFD SIM DATA

MISSION
DENVER LAN72D APP/LN
WITH HOLDING PTTN -

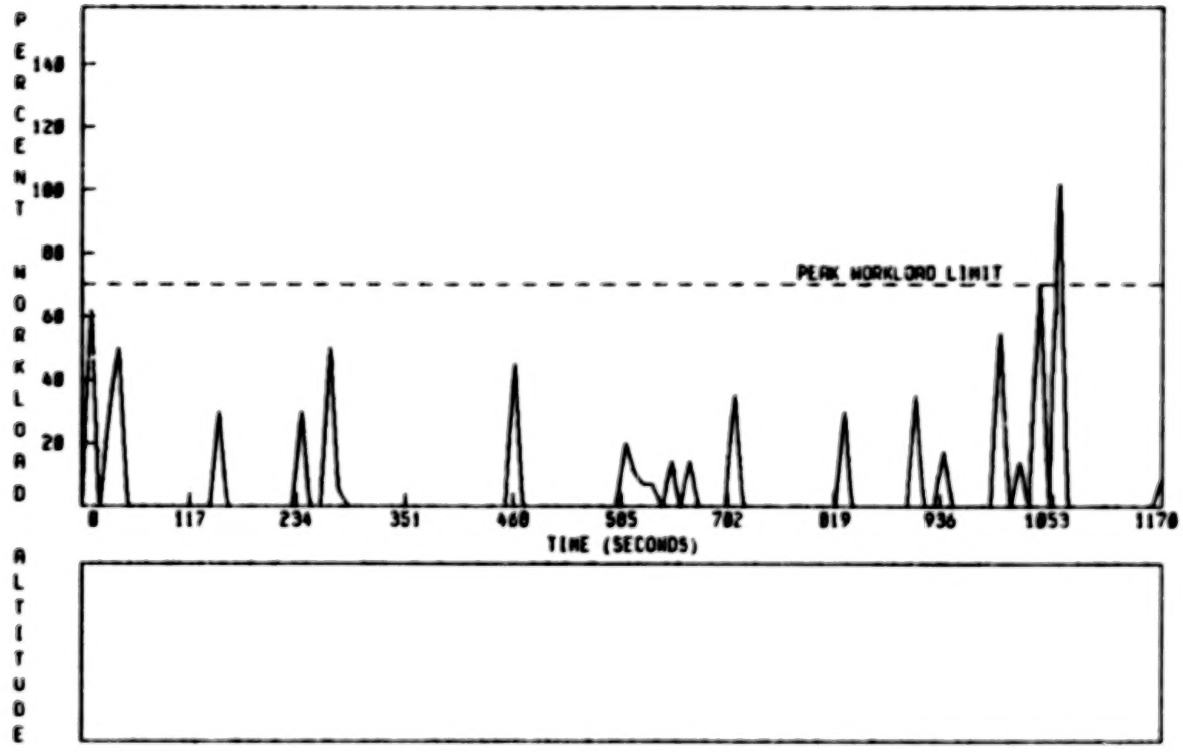



UNSHIFTED
OCT 19, 1978
WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- COGNITION
CONFIGURATION- AFD SIM DATA
MISSION
DENVER LAN12D APP/LN
WITH HOLDING PTTN -
PERCENT WORKLOAD
140
120
100
80
60
40
20
PEAK WORKLOAD (CTMD)
0
117
234
351
468
585
702
819
936
1053
1170
TIME (SECONDS)
ALTITUDE

UNSHIFTED
OCT 19, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- TOTAL COMMUNICATION
CONFIGURATION- AFD SIM DATA

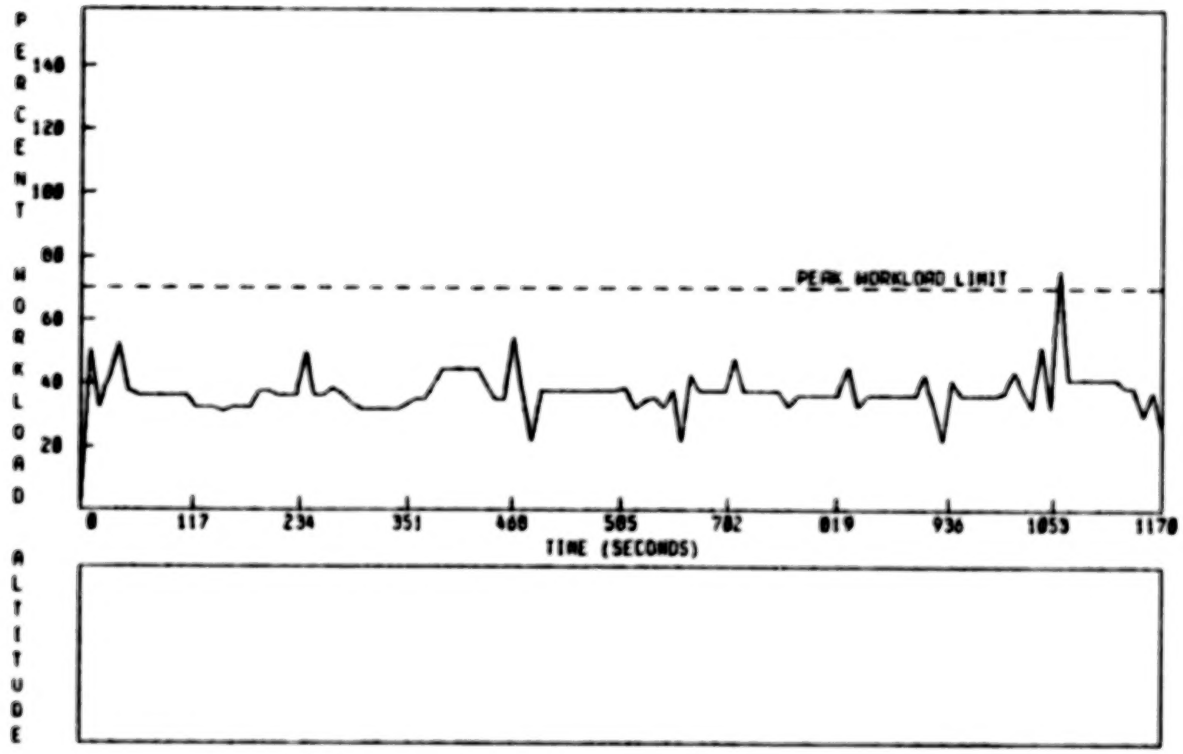
MISSION
DENVER LIMITED APP/LN
WITH HOLDING PTTN -



UNSHIFTED
OCT 19, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- PILOT
CHANNEL- WEIGHTED CHANNEL AVERAGE
CONFIGURATION- AFD SIM DATA

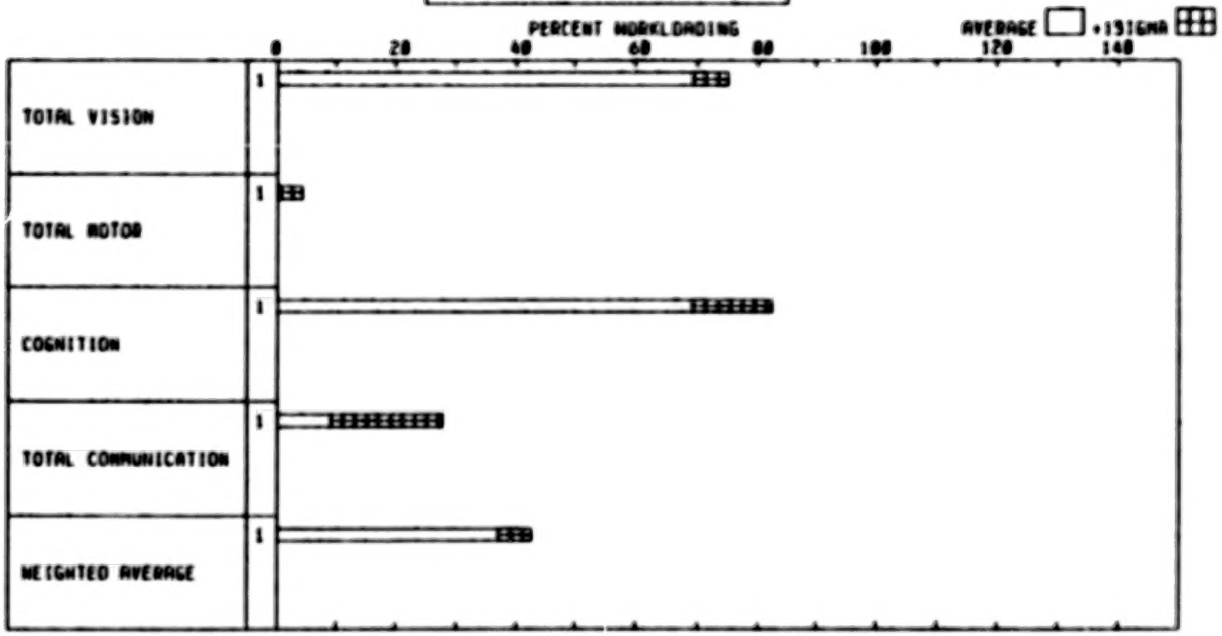
MISSION
DENVER LAN120 APP/LN
WITH HOLDING PTTN -



UNSHIFTED

WORKLOAD SUMMARY
CREWMEMBER - PILOT

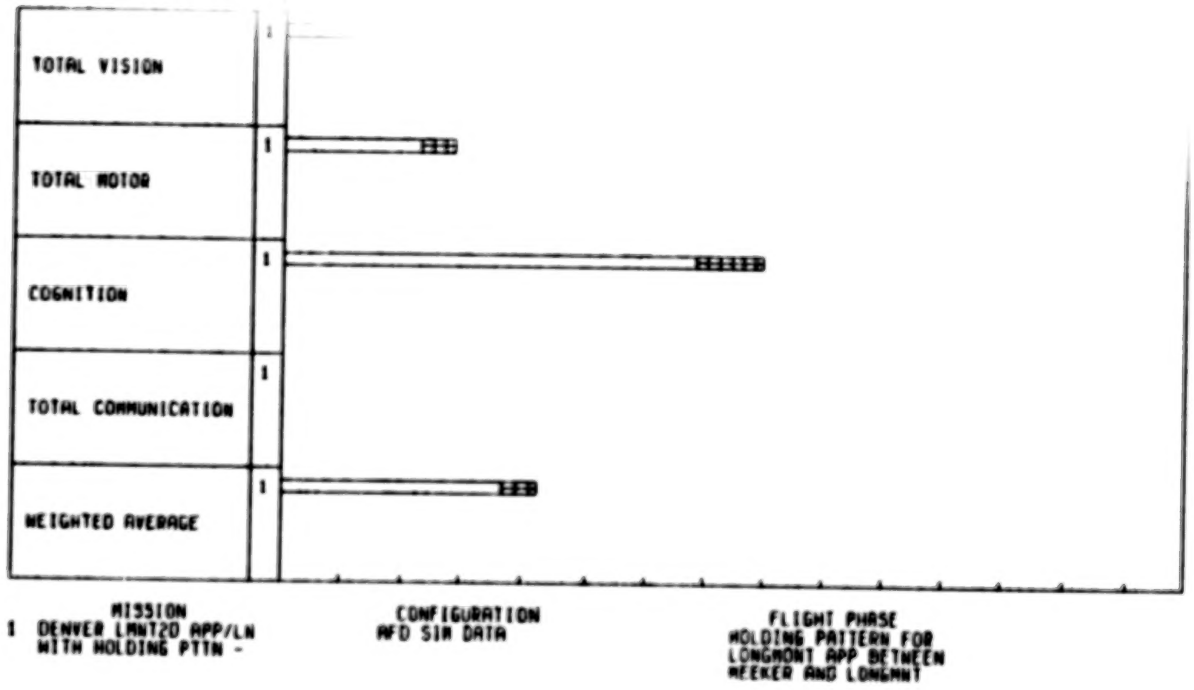
OCT 19, 1978



MISSION
1 DENVER LMT2D APP/LN WITH HOLDING PTTN -

CONFIGURATION
AFD SIM DATA

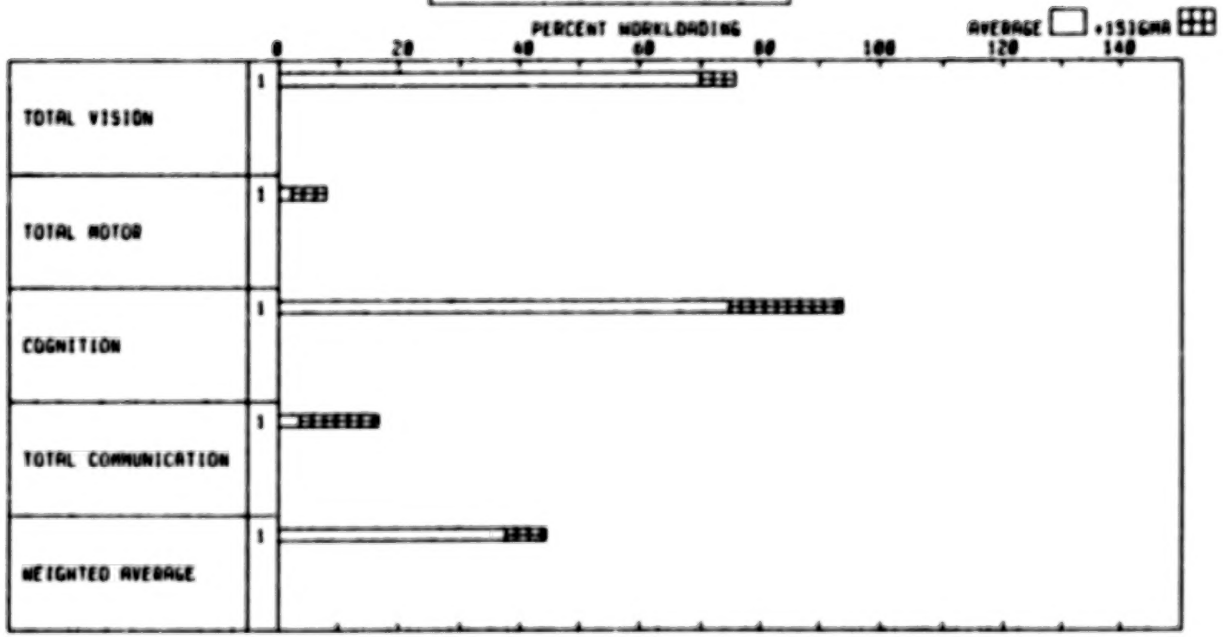
FLIGHT PHASE
LONGPNT APPROACH TO LANDING WITH HOLDING PATTERN


TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
1
1
1
1
MISSION
1 DENVER LMNT20 APP/LN
WITH HOLDING PTTN -
CONFIGURATION
AFD SIM DATA
FLIGHT PHASE
HOLDING PATTERN FOR
LONGMONT APP BETWEEN
MEEKER AND LONGMNT

UNSHIFTED

WORKLOAD SUMMARY
CREWMEMBER - PILOT

OCT 19, 1978



MISSION
1 DENVER LMNT2D APP/LN
WITH HOLDING PTTN -

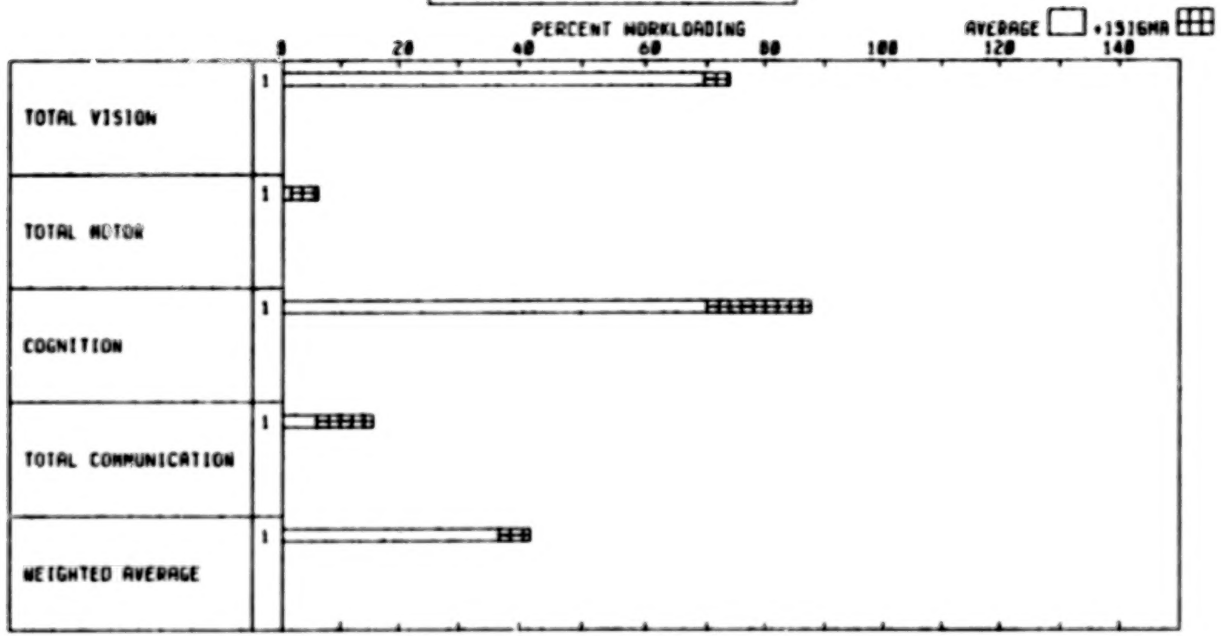
CONFIGURATION
AFD SIM DATA

FLIGHT PHASE
AIRCRAFT DEPARTS HLD
DESCENDING TO 11000

UNSHIFTED

WORKLOAD SUMMARY
CREWMEMBER - PILOT

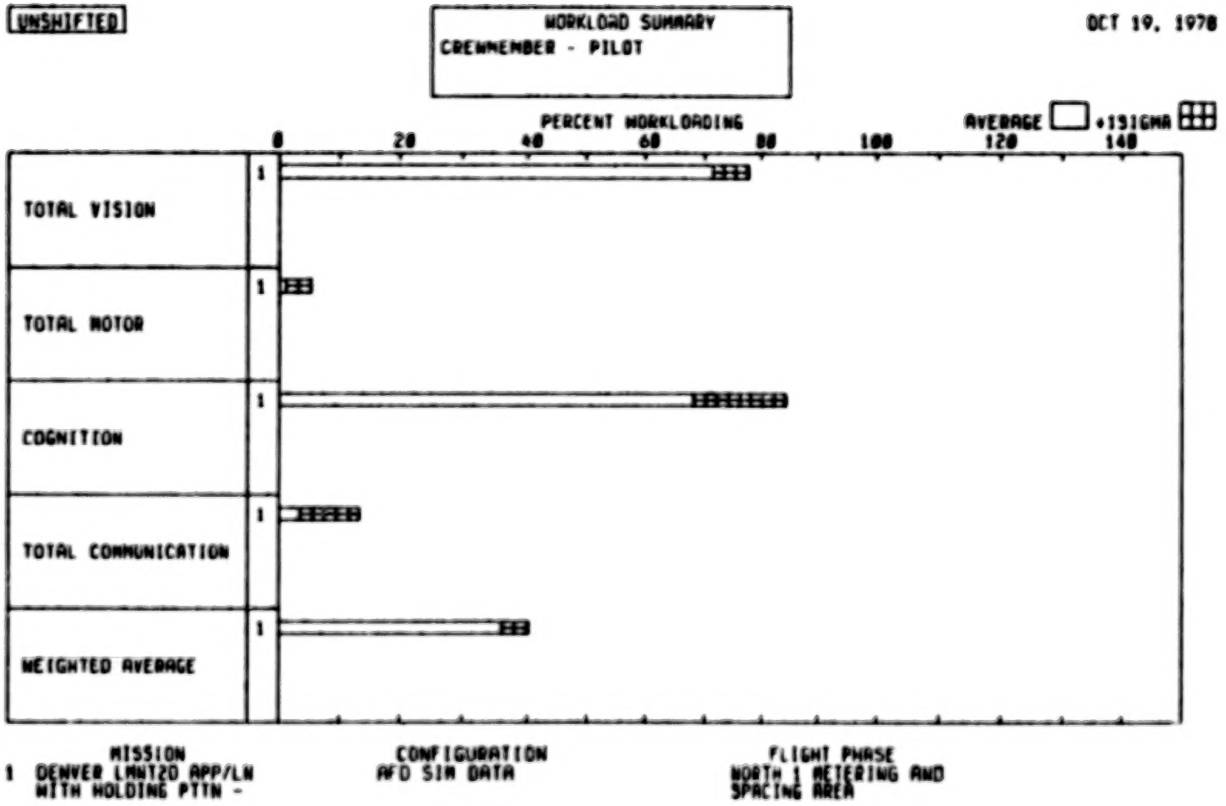
OCT 19, 1978



MISSION
1 DENVER LANTZD APP/LN WITH HOLDING PTTN -

CONFIGURATION
AFD SIM DATA

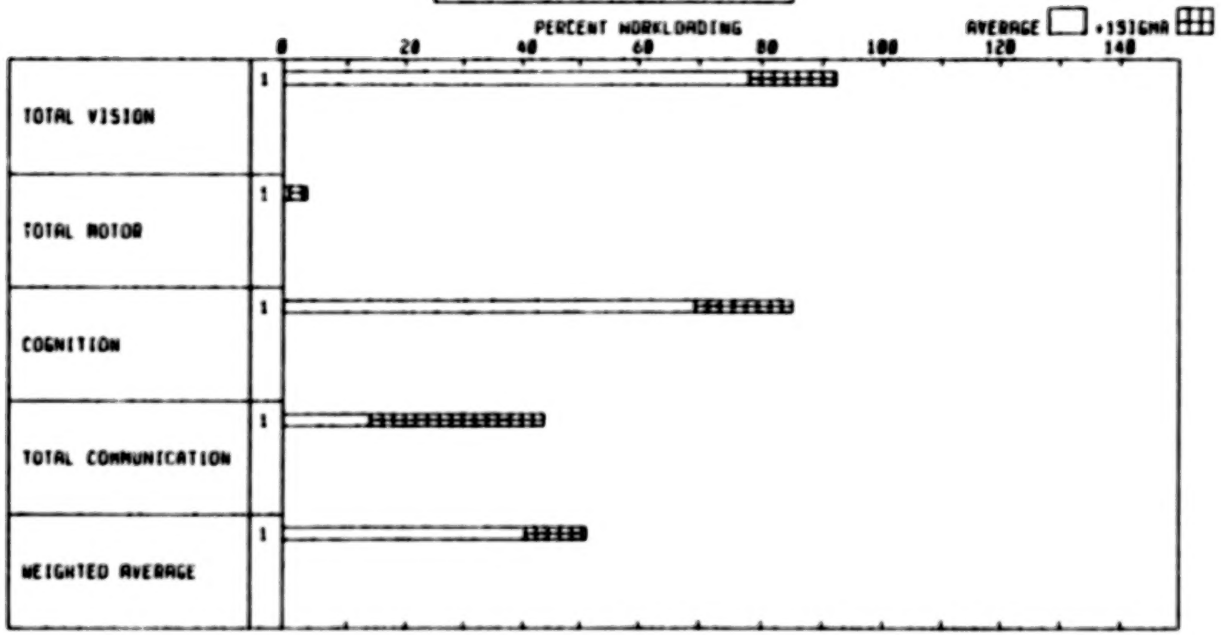
FLIGHT PHASE
AIRCRAFT DESCENDS TO 8000 AND SLOWS TO 170 KTS


UNSHIFTED
WORKLOAD SUMMARY
CREWMEMBER - PILOT
OCT 19, 1978
PERCENT WORKLOADING
AVERAGE
+1SIGMA
0
20
40
60
80
100
120
140
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 DENVER LMNT2D APP/LN WITH HOLDING PTTN -
CONFIGURATION
AFD SIM DATA
FLIGHT PHASE
NORTH 1 METERING AND SPACING AREA

UNSHIFTED

WORKLOAD SUMMARY
CREWMEMBER - PILOT

OCT 19, 1978



MISSION
1 DENVER LMNTZD APP/LN
WITH HOLDING PTTN -

CONFIGURATION
AFD SIM DATA

FLIGHT PHASE
FINAL APP TO LANDING
FOR LONGMONT

UNSHIFTED

MISSION TIMELINE
MISSION - DENVER LMNT20 APP/LN
WITH HOLDING PTTn -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE -LONGMONT APPROACH TO
LANDING WITH HOLDING
PATTERN
CREWMEMBER - PILOT

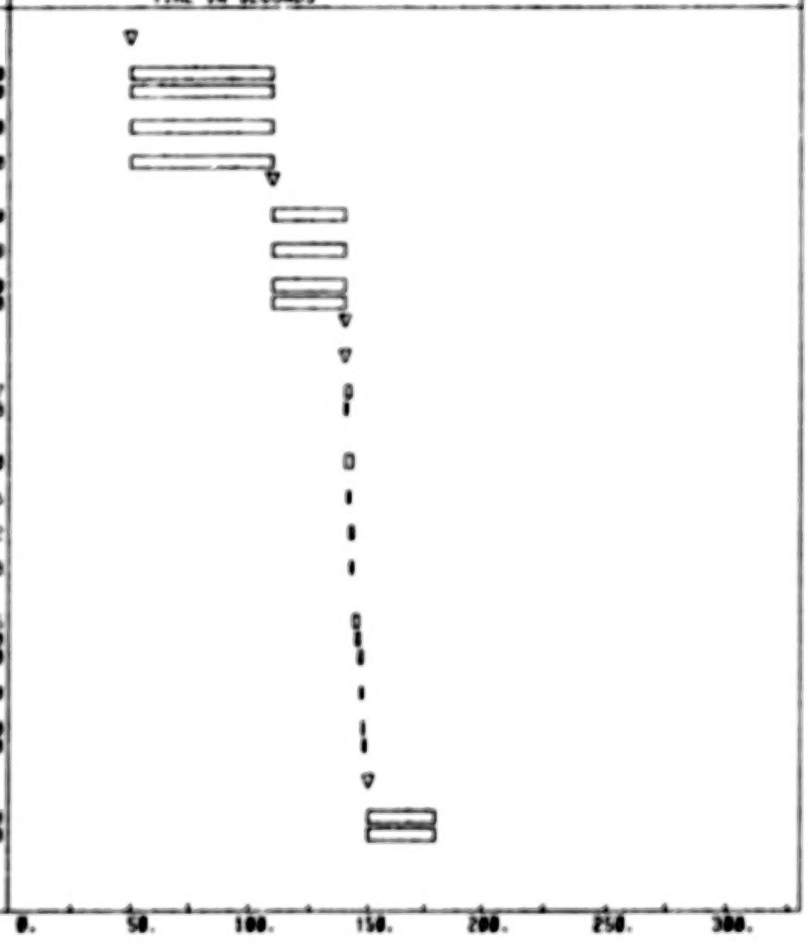
OCT 19, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LMNT01	START OF FLIGHT CDR	
ISP305	FLIGHT INSTRUMENT SCAN - F	
140829	REPORT 1000 FT TO LEVEL OFF	
IPLMNT01	MSG- UNITED 76, CONTACT DENVER APRCH CNTRL ON 120.05	4.50
2J 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
1P 11	MON VERBAL REPORT	1.70
LMNT02	DESCENT INSTRUCTIONS TO 15000	
IPLMNT06	MSG- UNITED76 DSCND MAINTAIN 15000	3.00
ISP205	FLIGHT INSTRUMENT SCAN - D	
2J 43	MON EADI	20.00
3L 04	MON IVSI INDIC	20.00
3A 14	MON AIRSPEED INDIC	20.00
2K 16	MON EHSI DISPLAY	20.00
LMNT03	RECEIVE HOLDING PTN INSTRUCTIONS	
IPLMNT08	MSG- UNITED76 HOLD AT LONGMONT, EXPECT FURTHER CLEARANCE AT 16 40	5.00
ALTCP1	PILOT MONITORS EADI-EHSI SYMBOLS FOR ALTITUDE CAPTURE	
LMNT50	UNITED 76 REACHES 15000 AND LEVELS OFF	

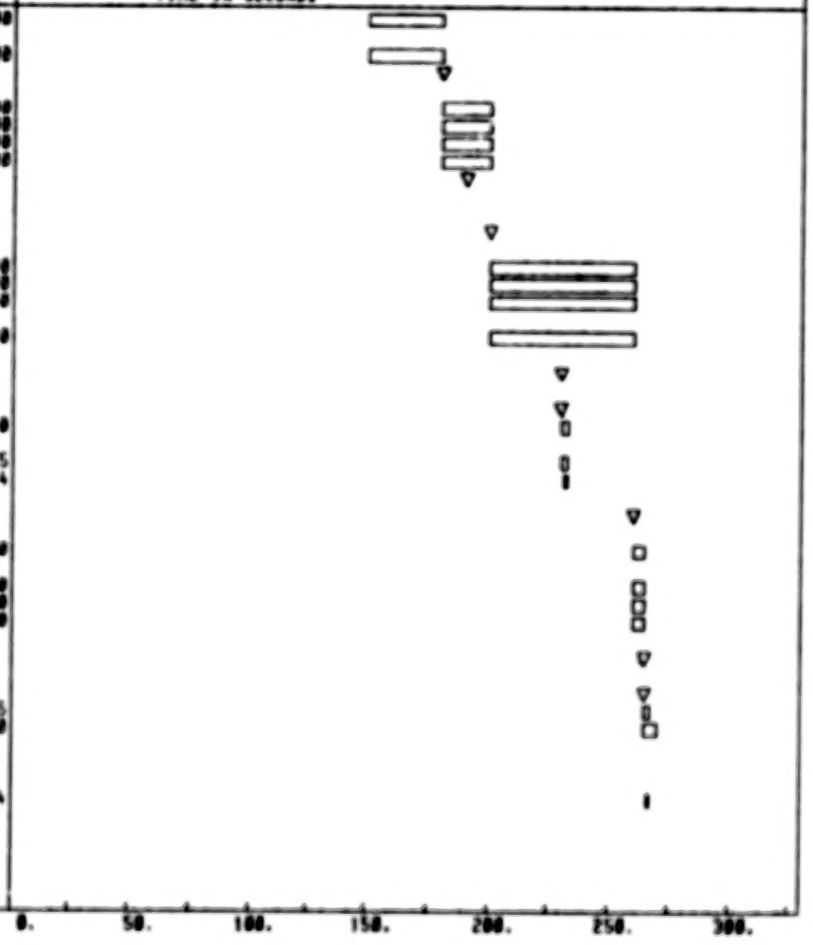
TIME IN SECONDS

0. 50. 100. 150. 200. 250. 300.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
ISP605	FLIGHT INSTRUMENT SCAN - F	
2J 42	MON EADI	60.00
5L 02	MON VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EHSI DISPLAY	60.00
ISP305	FLIGHT INSTRUMENT SCAN - E	
5L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
2J 42	MON EADI	30.00
LAN104	DESCENT INSTRUCTIONS TO 14000	
ALT2CH	ALTITUDE CHANGE PROC FOR 2D FLIGHT PATH	
2H 33	ROTATE ALT ENG KNOB	2.47
2H 31	MON ALT ENG MODE LT BLUE - ALT ENG MODE PRESELECTED	0.78
1PLAN710	MSG- UNITED76 DSCND MAINTAIN 14000	3.00
2H 34	READ ALT ENG VALUE ON DIGITAL INDIC	1.06
2H 28	PRESS ALT ENG MODE SW	1.42
2H 30	MON ALT ENG MODE LT ORANGE - ALT ENG MODE ARMED	0.78
2H 26	ROTATE FPA SEL KNOB	2.45
2K 32	MON ALT/RNG SYMBOLS	2.00
2H 21	PRESS FPA SEL MODE SW	1.40
3A 01	MONITOR IDICATED AIRSPEED INDIC	0.60
5L 05	MON IVSI	0.60
5H 02	MON COMB BARO ALT INDIC	0.60
ISP305	FLIGHT INSTRUMENT SCAN - E	
2J 42	MON EADI	30.00
5L 02	MON VERTICAL SPEED INDIC	30.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
3A 10	MONITOR AIRSPEED INDIC	30.00
ZK 14	MON EHSI DISPLAY	30.00
ISP205	FLIGHT INSTRUMENT SCAN - D	
9L 04	MON IVSI INDIC	20.00
3A 14	MON AIRSPEED INDIC	20.00
ZK 16	MON EHSI DISPLAY	20.00
ZJ 43	MON EADI	20.00
ALTCPT	PILOT MONITORS EADI-EHSI SYMBOLS FOR ALTITUDE CAPTURE	
ISP605	FLIGHT INSTRUMENT SCAN - F	
ZK 15	MON EHSI DISPLAY	60.00
ZJ 42	MON EADI	60.00
9L 02	MON VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
LANT05	RECEIVE SPEED REDUCTION TO 250 INST	
AFDSPD	AIRSPEED CHANGE PROC	
IPLANT12	MSG- UNITED76 REDUCE SPEED TO 250KTS	3.00
ZH 47	ROTATE CAS ENG KNOB	2.45
ZH 48	READ CAS ENG VALUE ON DIGITAL INDIC	1.04
ISP055	FLIGHT INSTRUMENT SCAN - A	
3A 10	MONITOR AIRSPEED INDIC	5.00
ZK 16	MON EHSI DISPLAY	5.00
ZJ 42	MON EADI	5.00
9L 02	MON VERTICAL SPEED INDIC	5.00
LANT06	RECEIVE HOLDING PTN INSTRUCTIONS	
AFDSPD	AIRSPEED CHANGE PROC	
ZH 47	ROTATE CAS ENG KNOB	2.45
IPLANT13	MSG- UNITED76 HOLD AT LONGMONT EXPECT FURTHER CLEARANCE AT 16 40 42	5.50
ZH 48	READ CAS ENG VALUE ON DIGITAL INDIC	1.04



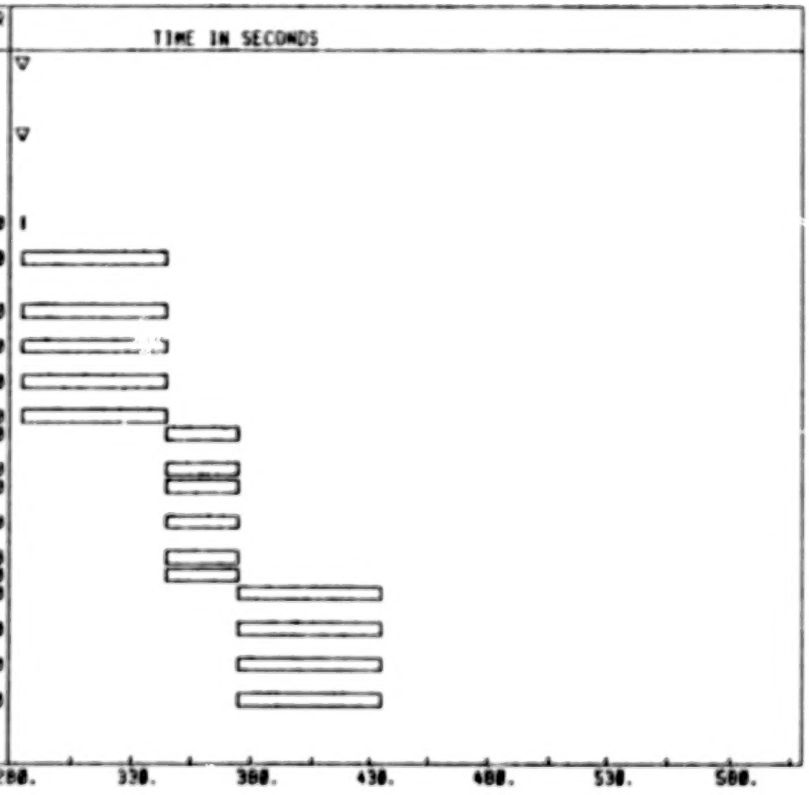
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
ISP055	FLIGHT INSTRUMENT SCAN - A		
SL 02	MON VERTICAL SPEED INDIC	5.00	
SA 10	MONITOR AIRSPEED INDIC	5.00	
ZK 16	MON EHSI DISPLAY	5.00	
ZJ 42	MON EADI	5.00	
ISP105	FLIGHT INSTRUMENT SCAN - B		
SA 10	MONITOR AIRSPEED INDIC	10.00	
ZK 16	MON EHSI DISPLAY	10.00	
ZJ 42	MON EADI	10.00	
SL 02	MON VERTICAL SPEED INDIC	10.00	

UNSHIFTED

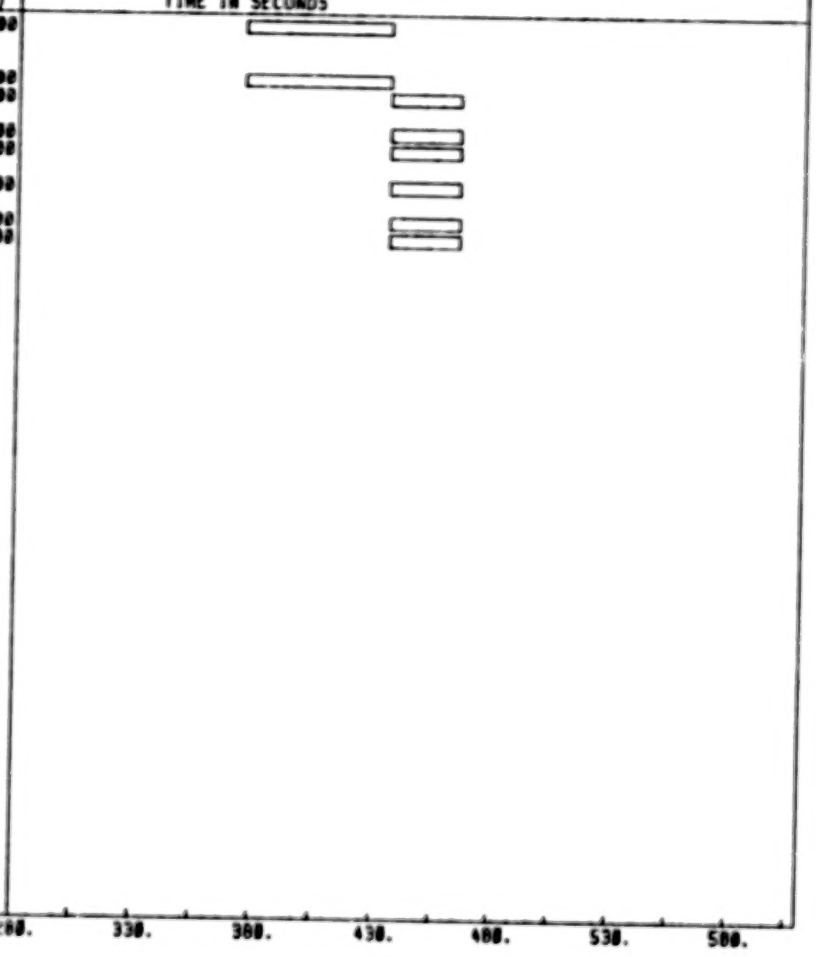
MISSION TIMELINE
MISSION - DENVER LMNT20 APP/LN
WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE -HOLDING PATTERN FOR
LONGMONT APP BETWEEN
MEEKER AND LONGMNT
CREWMEMBER - PILOT

OCT 19, 1978

CODE		EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LMNTS1		UNITED 76 CROSSES LONGMONT INTSCTN AND ENTERS HLDG PTN AT 210KTS	
HLDPTN		HOLDING PATTERN PROC -RIGHT TURNS -1 1/2 MIN. LEGS -FOR METERING AND SPACING	
3S	20	MON INDIC OF MARKER FLY OVER ON CI	0.50
4A	66	MANUALLY CONTROL A/C TO MAKE RIGHT TURN IN HOLDING PATTERN	60.00
2K	33	MON CURVED TREND VECTOR SYMBOLS	60.00
3A	10	MONITOR AIRSPEED INDIC	60.00
3L	03	MON VERTICAL SPEED INDIC	60.00
3H	06	MON ALTIMETER	60.00
2K	46	MON STRAIGHT TREND VECTOR SYMBOL	30.00
3H	06	MON ALTIMETER	30.00
3A	10	MONITOR AIRSPEED INDIC	30.00
3L	02	MON VERTICAL SPEED INDIC	30.00
4A	64	MANUALLY CONTROL A/C	30.00
2K	14	MON EHSI DISPLAY	30.00
2K	33	MON CURVED TREND VECTOR SYMBOLS	60.00
3A	10	MONITOR AIRSPEED INDIC	60.00
3L	03	MON VERTICAL SPEED INDIC	60.00
3H	06	MON ALTIMETER	60.00



CODE		EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
4A	66	MANUALLY CONTROL A/C TO MAKE RIGHT TURN IN HOLDING PATTERN	60.00
2K	15	MON EWSI DISPLAY	60.00
2K	46	MON STRAIGHT TREND VECTOR SYMBOL	30.00
3H	86	MON ALTIMETER	30.00
5A	10	MONITOR AIRSPEED INDIC	30.00
3L	82	MON VERTICAL SPEED INDIC	30.00
4A	64	MANUALLY CONTROL A/C	30.00
2K	14	MON EWSI DISPLAY	30.00



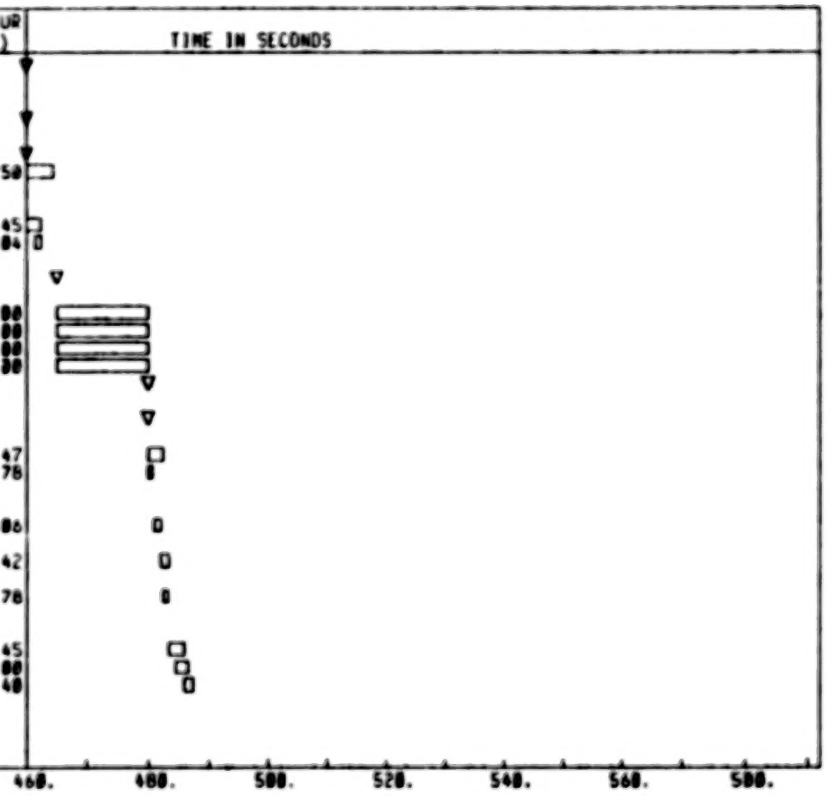
UNSHIFTED

MISSION TIMELINE
MISSION - DENVER LMNT20 APP/LN
WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE -AIRCRAFT DEPARTS HLD
DESCENDING TO 11000

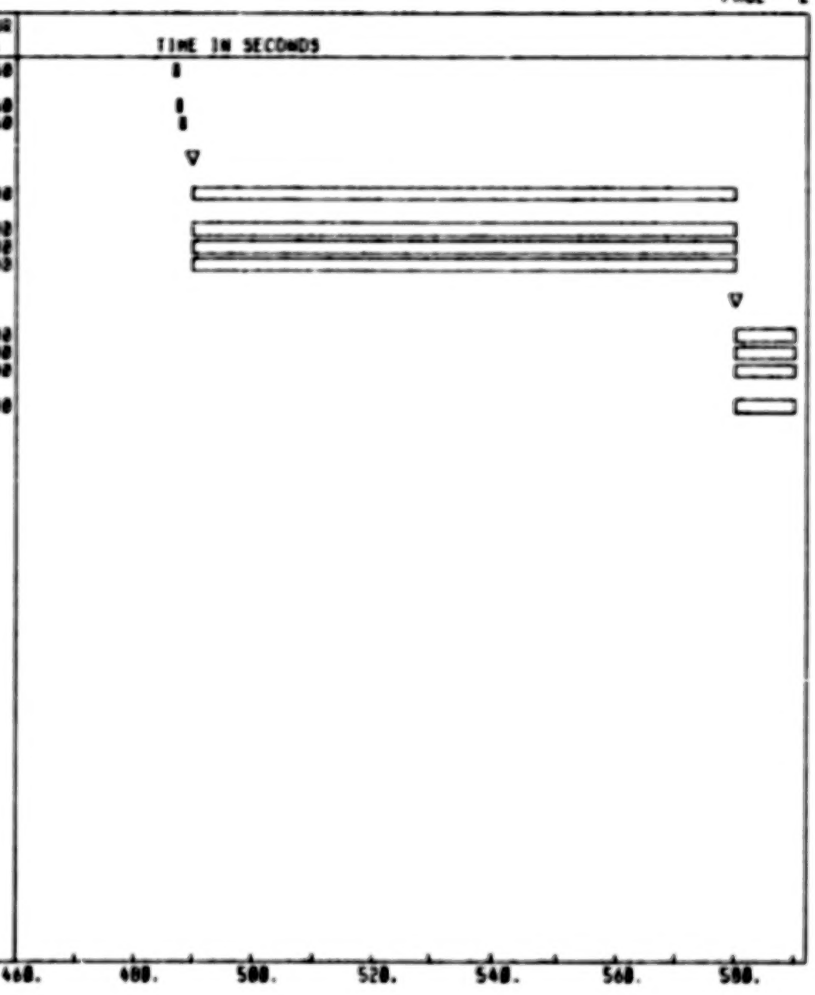
CREWMEMBER - PILOT

OCT 19, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LMNTS2	UNITED 76 DEPARTS HLDG PTN CONTINUING FLIGHT PATH	
LMNT07	RECEIVE DESCENT INST AND SPEED INCREASE	
AFDSPD	AIRSPEED CHANGE PROC	
IPLMNT1S	MSG- UNITED76 INCRSE SPEED TO 220KTS DSCND MAINTAIN 11000	4.50
2H 47	ROTATE CAS ENG KNOB	2.45
2H 48	READ CAS ENG VALUE ON DIGITAL INDIC	1.84
ISP1SS	FLIGHT INSTRUMENT SCAN - C	
2K 16	MON EHSI DISPLAY	15.00
2J 43	MON EADI	15.00
9L 04	MON IVSI INDIC	15.00
3A 14	MON AIRSPEED INDIC	15.00
LMNTS8	PILOT SETS HLD PTN SPEED ON CAS INDIC	
ALT2CH	ALTATUDE CHANGE PROC FOR 2D FLIGHT PATH	
2H 33	ROTATE ALT ENG KNOB	2.47
2H 31	MON ALT ENG MODE LT BLUE - ALT ENG MODE PRESELECTED	0.78
2H 34	READ ALT ENG VALUE ON DIGITAL INDIC	1.86
2H 28	PRESS ALT ENG MODE S SW	1.42
2H 30	MON ALT ENG MODE LT ORANGE - ALT ENG MODE ARMED	0.78
2H 26	ROTATE FPA SEL KNOB	2.45
2K 32	MON ALT/RNG SYMBOLS	2.00
2H 21	PRESS FPA SEL MODE SW	1.40



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
9A 01	MONITOR IDICATED AIRSPEED INDIC	0.60
3L 05	MON IVSI	0.60
9H 02	MON CDRA BARO ALT INDIC	0.60
ISP005	FLIGHT INSTRUMENT SCAN - G	
9A 11	MONITOR AIRSPEED INDIC	90.00
2K 15	MON EHSI DISPLAY	90.00
2J 43	MON EADI	90.00
3L 03	MON VERTICAL SPEED INDIC	90.00
ISP105	FLIGHT INSTRUMENT SCAN - B	
2K 14	MON EHSI DISPLAY	10.00
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
9A 10	MONITOR AIRSPEED INDIC	10.00



UNSHIFTED

MISSION TIMELINE
MISSION - DENVER LANTZD APP/LN
WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE -AIRCRAFT DESCENDS
TO 8000 AND SLOWS
TO 170 KTS
CREWMEMBER - PILOT

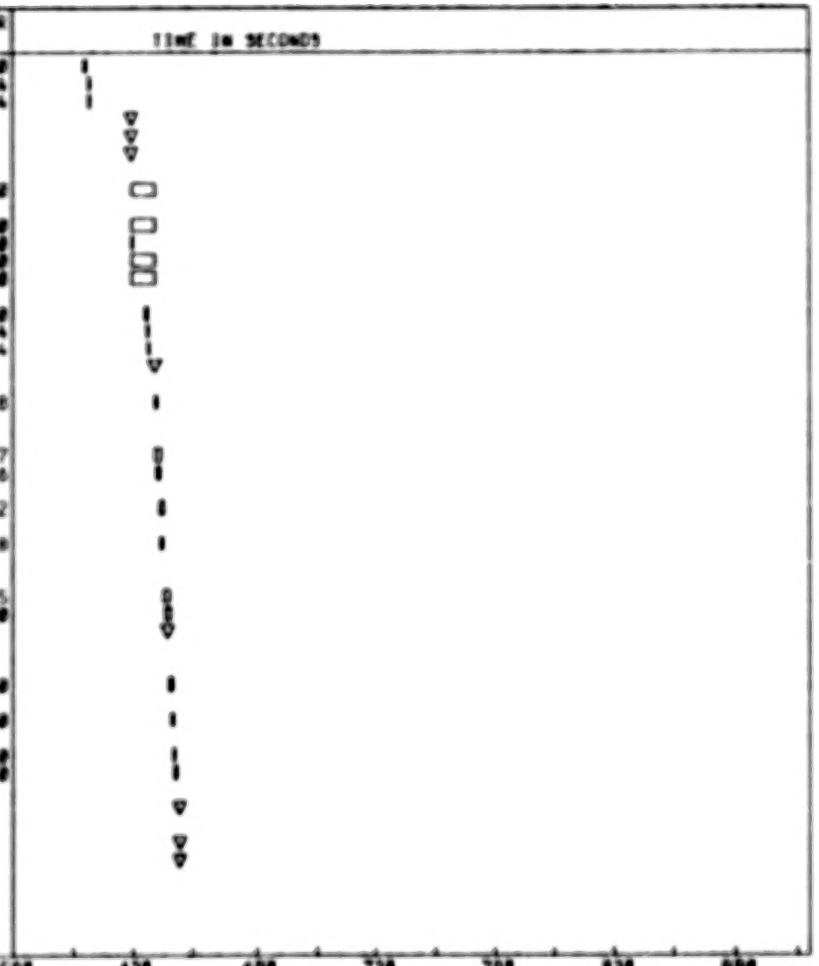
OCT 19, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LANTS3	UNITED 76 CROSSES BRIGHTON INTSCTN + 11000. LEVELS OFF AND SLOWS TO 170	
LANT08	RECEIVE SPEED REDUCTION INSTRUCTIONS-170	
1PLANT17	MSG- UNITED76 REDUCE SPEED TO 1 KTS	3.00
ALTCPT	PILOT MONITORS EADI-EHSI SYMBOLS FOR ALTITUDE CAPTURE	
AFDALT	ALTITUDE CHANGE PROC	
ZH 33	ROTATE ALT ENG KNOB	2.47
ZH 34	READ ALT ENG VALUE ON DIGITAL INDIC	1.06
AFDSPD	AIRSPEED CHANGE PROC	
ZH 47	ROTATE CAS ENG KNOB	2.45
ZH 48	READ CAS ENG VALUE ON DIGITAL INDIC	1.04
ISP855	FLIGHT INSTRUMENT SCAN - A	
3L 02	MON VERTICAL SPEED INDIC	5.00
3A 10	MONITOR AIRSPEED INDIC	5.00
ZK 16	MON EHSI DISPLAY	5.00
ZJ 42	MON EADI	5.00
ISP305	FLIGHT INSTRUMENT SCAN - E	
3A 10	MONITOR AIRSPEED INDIC	30.00
ZK 14	MON EHSI DISPLAY	30.00
ZJ 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
160811	SET FLAPS TO FLAPS 1	
1P160850	CALL OUT -(FLAPS 1)	0.70

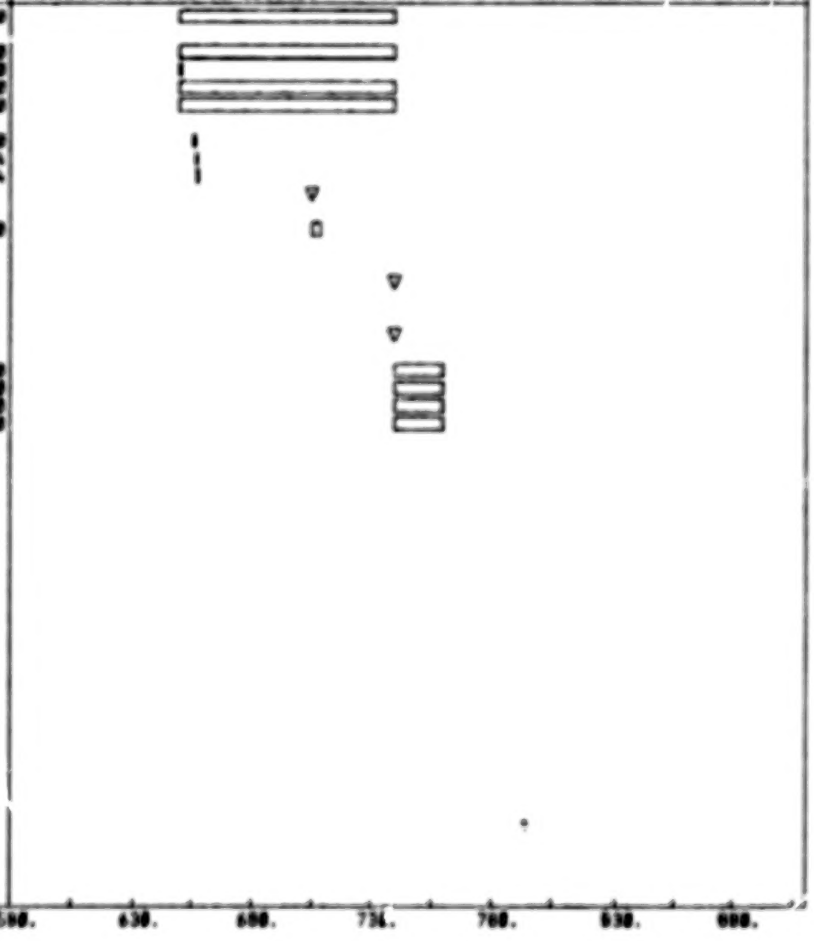
TIME IN SECONDS

500. 630. 600. 730. 700. 830. 800.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
1P 10	MON VERBAL REPORT	0.70
7F 30	MON ENG NO 2 EPR IND	0.44
7F 25	MON ENG NO 1 EPR IND	0.44
160017	SET FLAPS TO FLAPS 5	
160010	FLAP SET PROCEDURE	
1SP105	FLIGHT INSTRUMENT SCAN - B	
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
1P160061	CALL OUT -(FLAPS 5)	0.70
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
1P 10	MON VERBAL REPORT	0.70
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
ALT2CH	ALTITUDE CHANGE PROC FOR 2D FLIGHT PATH	
2H 31	MON ALT ENG MODE LT BLUE - ALT ENG MODE PRESELECTED	0.70
2H 33	ROTATE ALT ENG KNOB	2.47
2H 34	READ ALT ENG VALUE On DIGITAL INDIC	1.86
2H 28	PRESS ALT ENG MODE SW	1.42
2H 30	MON ALT ENG MODE LT ORANGE - ALT ENG MODE ARMED	0.70
2H 26	ROTATE FPA SEL KNOB	2.45
2K 32	MON ALT/RNG SYMBOLS	2.00
LNNT54	UNITED 76 REACHES 17000TS AND RESUMES DESCENT TO 8000	
2H 21	PRESS FPA SEL MODE SW	1.40
3A 01	MONITOR IDICATED AIRSPEED INDIC	0.60
3L 05	MON IVSI	0.60
5H 02	MON CDRS BARO ALT INDIC	0.60
160025	SET FLAPS TO FLAPS 15	
160010	FLAP SET PROCEDURE	
1SP105	FLIGHT INSTRUMENT SCAN - C	



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
3A 11	MONITOR AIRSPEED INDIC	90.00
2K 15	MON EHSI DISPLAY	90.00
1P160062	CALL OUT -(FLAPS 15)	0.70
2J 43	MON ERDI	90.00
3L 83	MON VERTICAL SPEED INDIC	90.00
1P 10	MON VERBAL REPORT	0.70
7F 25	MON ENG NO 1 EPR INDI	0.44
7F 30	MON ENG NO 2 EPR INDI	0.44
LANT09	CONTACT DENVER LCL CONTROL 118.3	
1PLANT19	MSG- UNITED76 CONTCT DENVER LOCAL CONTROL ON 118.3	3.50
ALTCP1	PILOT MONITORS EADI-EHSI SYMBOLS FOR ALTITUDE CAPTURE	
ISP205	FLIGHT INSTRUMENT SCAN - D	
2K 04	MON IVSI INDIC	20.00
3A 14	MON AIRSPEED INDIC	20.00
2K 16	MON EHSI DISPLAY	20.00
2J 43	MON ERDI	20.00



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2.2	Byers 2D Approach	
	Workload Histogram (WLH)	
	Total Vision	51 2/B1 75 2/E7
	Total Motor	52 2/B3 76 2/E9
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	Mission Timeline (MTL)				
	Cruise	60	2/C5	84	2/F11
	Descent	63	2/C11	87	2/G3
	Metering and Spacing	67	2/D5	91	2/G11
	Final Approach/Landing	71	2/D13	94	3/A7
2.3	Longmont Manual Approach				
	Workload Histogram (WLH)				
	Total Vision	98	3/B1	128	3/F5
	Total Motor	99	3/B3	129	3/F7
	Cognition	100	3/B5	130	3/F9
	Total Communications	101	3/B7	131	3/F11
	Weighted Channel Average	102	3/B9	132	3/F13
	Workload Summaries (WLS)				
	Cruise	103	3/B11	133	3/G1
	Holding Pattern	104	3/B13	134	3/G3
	Descent to 11,000	105	3/C1	135	3/G5
	Descent to 8000	106	3/C3	136	3/G7
	Metering and Spacing	107	3/C5	137	3/G9
	Final Approach/Landing	108	3/C7	138	3/G11
	Mission Timeline (MTL)				
	Cruise	109	3/C9	139	3/G13
	Holding Pattern	114	3/D5	145	4/B1
	Descent to 11,000	116	3/D9	148	4/B7

SECTION NO.	TITLE	PAGE Pilot	PAGE Copilot
	Descent to 8000	1183/D13	151 4/B13
	Metering and Spacing	1213/E5	155 4/C7
	Final Approach/Landing	1243/E11	160 4/D3
2.4	Longmont 2D Approach		
	Workload Histogram (WLH)		
	Total Vision	1654/D13	195 5/B7
	Total Motor	1664/E1	196 5/B9
	Cognition	1674/E3	197 5/B11
	Total Communications	1684/E5	198 5/B13
	Weighted Channel Average	1694/E7	199 5/C1
	Workload Summaries (WLS)		
	Cruise	1704/E9	200 5/C3
	Holding Pattern	1714/E11	201 5/C5
	Descent to 11,000	1724/E13	202 5/C7
	Descent to 8000	1734/F1	203 5/C9
	Metering and Spacing	1744/F3	204 5/C11
	Final Approach/Landing	1754/F5	205 5/C13
	Mission Timeline (MTL)		
	Cruise	1764/F7	206 5/D1
	Holding Pattern	1804/G1	213 5/E1
	Descent to 11,000	1824/G5	216 5/E7
	Descent to 8000	1844/G9	219 5/E13
	Metering and Spacing	1875/A5	223 5/F7
	Final Approach/Landing	1915/A13	228 5/G3

SECTION NO.	TITLE	PAGE	
		Pilot	Copilot
3.0	METERING AND SPACING DATA FILE	2335/G13	
	Phase Library	2346/A5	234 6/A5
	Event/Procedure Library	2366/A9	236 6/A9
	Task Library	2937/C1	293 7/C1
	Subsystem Library	3959/D3	395 9/D3

UNSHIFTED

MISSION TIMELINE
MISSION - DENVER LANT2D APP/LN
WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE -NORTH 1 METERING AND
SPACING AREA

CREWMEMBER - PILOT

OCT 19, 1978

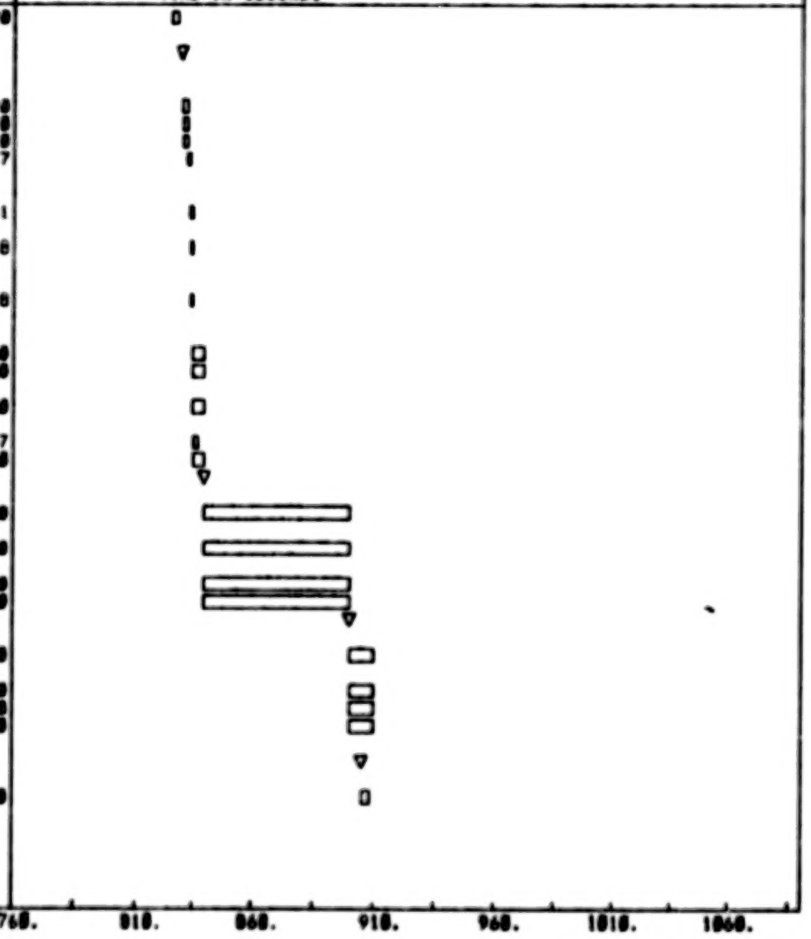
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LANTSS	UNITED 76 CROSSES NORTH1 INTSCTN < 17000 TKTS AND D000	
TKACHG	HEADING CHANGE PROC T/ DEVIATE FROM 2D FLIGHT PATH	
2H 19	ROTATE TKA SEL KNOB	2.50
2K 47	MON TRACK ANGLE SYM	2.20
2K 17	MON EHSI DISPLAY	2.20
2H 17	MON TKA SEL MODE LT BLUE - TKA SEL MODE PRESELECTED	0.77
2H 14	PRESS TKA SEL MODE SW	1.41
2H 15	MON TKA SEL MODE LT GREEN - TKA SEL MODE ENGAGED	0.78
2H 38	MON HOR PATH MODE LT DARK - HOR PATH MODE DISENGAGED	0.78
3H 07	MON ALTIMETER	5.00
2K 59	MON CURVED TREND VECTOR SYMBOLS	5.00
3A 10	MONITOR AIRSPEED INDIC	5.00
2J 42	MON EADI	5.00
2K 16	MON EHSI DISPLAY	2.27
ISP60S	FLIGHT INSTRUMENT SCAN - F	
3A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EHSI DISPLAY	60.00
2J 42	MON EADI	60.00
5L 02	MON VERTICAL SPEED INDIC	60.00
LANT1D	RECEIVE INST TO FLY DIRECT ALTURA	

TIME IN SECONDS

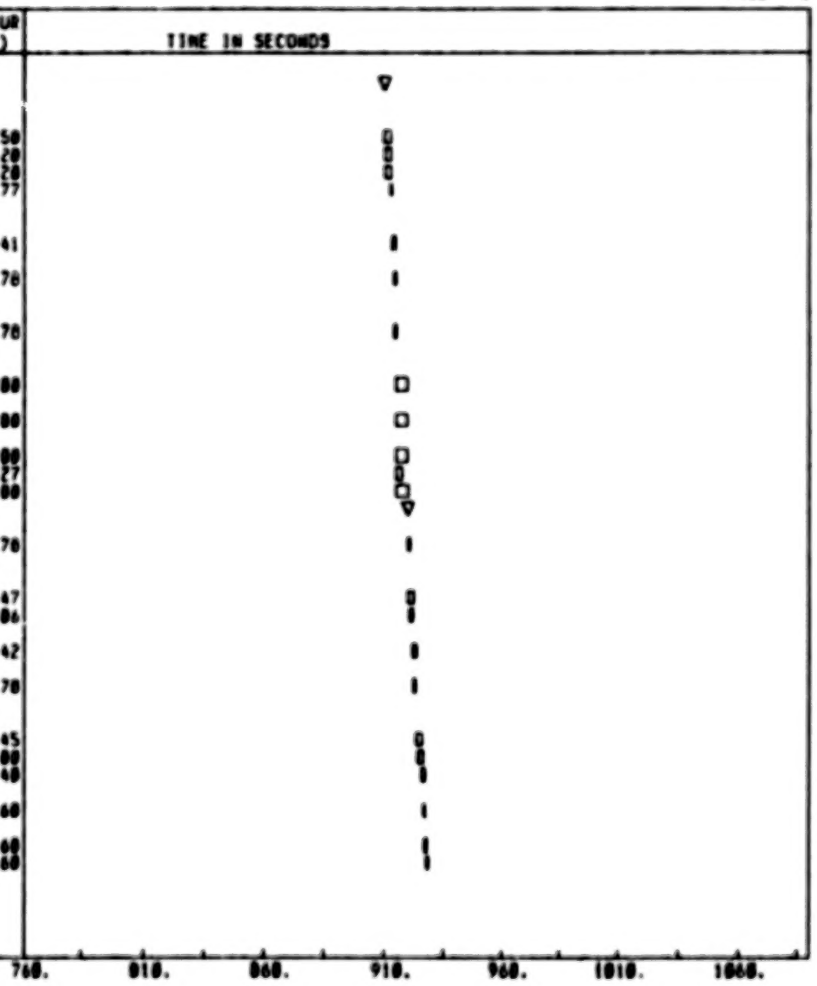
760. 810. 860. 910. 960. 1010. 1060.

187

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
1PLANT21	MSG- UNITED76 FLY DIRECT TO ALTURA	3.00
TKACHG	HEADING CHANGE PROC TO DEVIATE FROM 2D FLIGHT PATH	
2H 19	ROTATE TKA SEL KNOB	2.50
2K 17	MON ENSI DISPLAY	2.20
2K 47	MON TRACK ANGLE SYM	2.20
2H 17	MON TKA SEL MODE LT BLUE - TKA SEL MODE PRESELECTED	0.77
2H 14	PRESS TKA SEL MODE SW	1.41
2H 38	MON HOR PATH MODE LT DARK - HOR PATH MODE DISENGAGED	0.70
2H 15	MON TKA SEL MODE LT GREEN - TKA SEL MODE ENGAGED	0.70
3H 07	MON ALTIMETER	5.00
2K 59	MON CURVED TREND VECTOR SYMBOLS	5.00
3A 18	MONITOR AIRSPEED INDIC	5.00
2K 16	MON ENSI DISPLAY	2.27
2J 42	MON EADI	5.00
ISP60S	FLIGHT INSTRUMENT SCAN - F	
3L 02	MON VERTICAL SPEED INDIC	60.00
3A 18	MONITOR AIRSPEED INDIC	60.00
2K 15	MON ENSI DISPLAY	60.00
2J 42	MON EADI	60.00
ISP10S	FLIGHT INSTRUMENT SCAN - B	
3A 18	MONITOR AIRSPEED INDIC	10.00
2K 14	MON ENSI DISPLAY	10.00
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
LANT11	RECEIVE INST TO FLY DIRECT TO GATE	
1PLANT23	MSG- UNITED76 FLY DIRECT TO APPROACH GATE	3.50



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
TRACHG	HEADING CHANGE PROC TO DEVIATE FROM 2D FLIGHT PATH	
2H 19	ROTATE TKA SEL KNOB	2.50
2K 17	MON EHSI DISPLAY	2.20
2K 47	MON TRACK ANGLE SYM	2.20
2H 17	MON TKA SEL MODE LT BLUE - TKA SEL MODE PRESELECTED	0.77
2H 14	PRESS TKA SEL MODE SW	1.41
2H 38	MON HOR PATH MODE LT DARK - HOR PATH MODE DISENGAGED	0.70
2H 15	MON TKA SEL MODE LT GREEN - TKA SEL MODE ENGAGED	0.70
2K 59	MON CURVED TREND VECTOR SYMBOLS	5.00
3A 10	MONITOR AIRSPEED INDIC	5.00
3H 07	MON ALTIMETER	5.00
2K 16	MON EHSI DISPLAY	2.27
2J 42	MON ERAI	5.00
ALT2CH	ALTITUDE CHANGE PROC FOR 2D FLIGHT PATH	
2H 31	MON ALT ENG MODE LT BLUE - ALT ENG MODE PRESELECTED	0.70
2H 33	ROTATE ALT ENG KNOB	2.47
2H 34	READ ALT ENG VALUE ON DIGITAL INDIC	1.86
2H 20	PRESS ALT ENG MODE SW	1.42
2H 30	MON ALT ENG MODE LT ORANGE - ALT ENG MODE ARMED	0.70
2H 26	ROTATE FPA SEL KNOB	2.45
2K 32	MON ALT/RNG SYMBOLS	2.00
2H 21	PRESS FPA SEL MODE SW	1.40
3A 01	MONITOR IDICATED AIRSPEED INDIC	0.60
3L 05	MON IVSI	0.60
3H 02	MON CORR BARO ALT INDIC	0.60



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
ISP605	FLIGHT INSTRUMENT SCAN - F		
SA 10	MONITOR AIRSPEED INDIC	60.00	
SK 15	MON EHSI DISPLAY	60.00	
SJ 42	MON EADI	60.00	
SL 02	MON VERTICAL SPEED INDIC	60.00	
140823	REPORT 8000 FT TO LEVEL OFF		
IP 11 ALTCPT	MON VERBAL REPORT PILOT MONITORS EADI-ESHT SYMBOLS FOR ALTITUDE CAPTURE	1.70	

760. 810. 860. 910. 960. 1010. 1060.

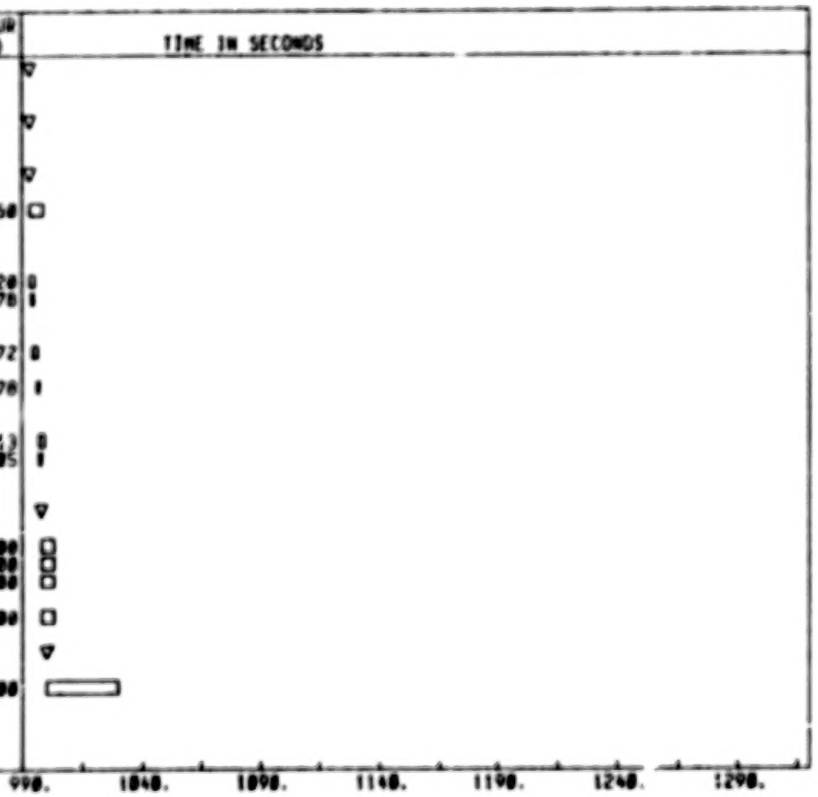
UNSHIFTED

MISSION TIMELINE
MISSION - DENVER LANT20 APP/LN
WITH HOLDING PTTN -
CONFIGURATION - AFO SIM DATA
FLIGHT PHASE -FINAL APP TO LANDING
FOR LONGMONT

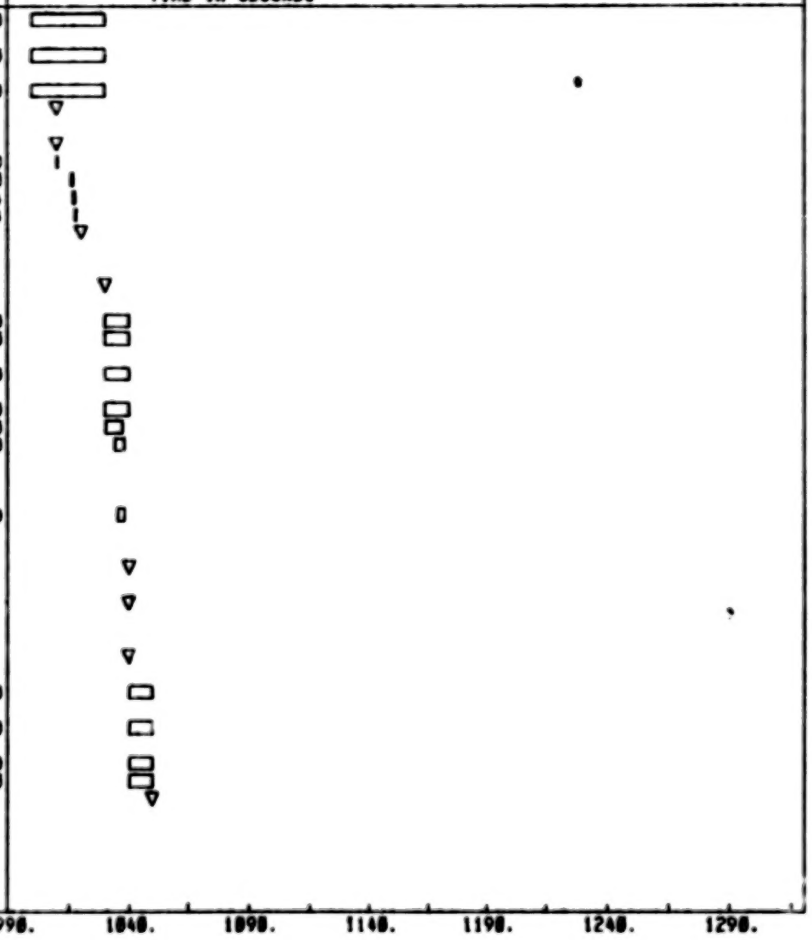
CREWMEMBER - PILOT

OCT 19, 1978

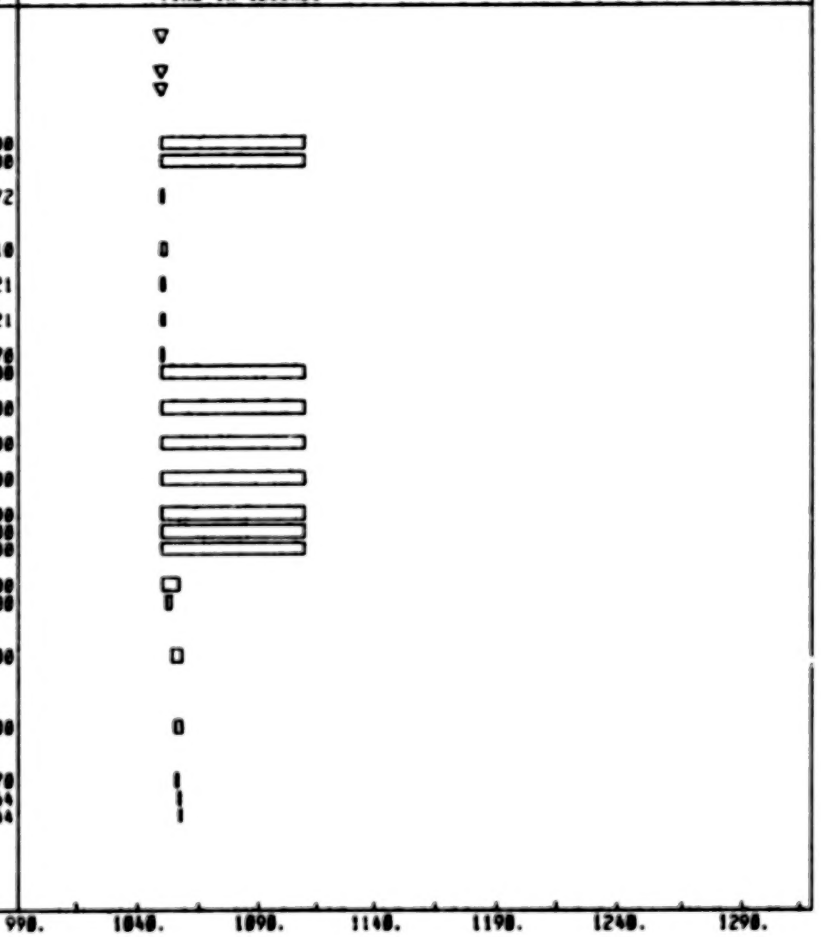
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LANT58	U 76 CROSSES GATE SETS FLAPS TO 25 SLOWS TO APRCH SPD	
LANT12	RECEIVE INST TO SLOW TO APRCH SPEED AND CALL TOWER AT O.M.	
LNDARM	PILOT ARMS AUTOLAND FEATURE ON CMP	
1PLANT25	MSG- UNITED76 REDUCE TO APPROACH SPEED CONTACT TWR AT O M. ON120.0	5.50
2K 17	MON EWSI DISPLAY	2.20
2H 36	MON HOR PATH MODE LT GREEN - HOR PATH MODE ENGAGED	0.70
2H 35	PRESS HOR PATH MODE SW	1.72
2H 38	MON HOR PATH MODE LT DARK - HOR PATH MODE DISENGAGED	0.70
2H 10	PRESS LAND MODE SW	2.13
2H 13	MON LAND MODE LT DARK - LAND MODE DISENGAGED	1.05
ISP855	FLIGHT INSTRUMENT SCAN - A	
2K 16	MON EWSI DISPLAY	5.00
2J 42	MON EADI	5.00
3L 02	MON VERTICAL SPEED INDIC	5.00
3A 10	MONITOR AIRSPEED INDIC	5.00
ISP305	FLIGHT INSTRUMENT SCAN - E	
2J 42	MON EADI	30.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
9L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
160053	SET FLAPS TO FLAPS 25	
160010	FLAP SET PROCEDURE	
1P160070	CALL OUT -[FLAPS 25]	0.70
1P 10	MON VERBAL REPORT	0.70
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
LNDCLR	CONTACT TOWER FOR FINAL LANDING CLEARANCE	
ISP105	FLIGHT INSTRUMENT SCAN - B	
2J 42	MON EADI	10.00
9L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
1B 19	MON VHF-2 COMM AUDIO	7.00
1PLNDCL4	MON RADIO COMM - (UNITED 24, DENVER TOWER, ROGER, CLEAR TO LAND RUNWAY TWO	4.00
1PLNDCL5	SIX . WIND TWO ONE ZERO DEGREES AT ZERO NINER.]	3.00
LANT57	UNITED 76 CROSSES O.M. SETS FLAPS 40	
LNDCLR	CONTACT TOWER FOR FINAL LANDING CLEARANCE	
ISP105	FLIGHT INSTRUMENT SCAN - B	
9L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
2J 42	MON EADI	10.00
160059	CROSS RWY XX OUTER MARKER	

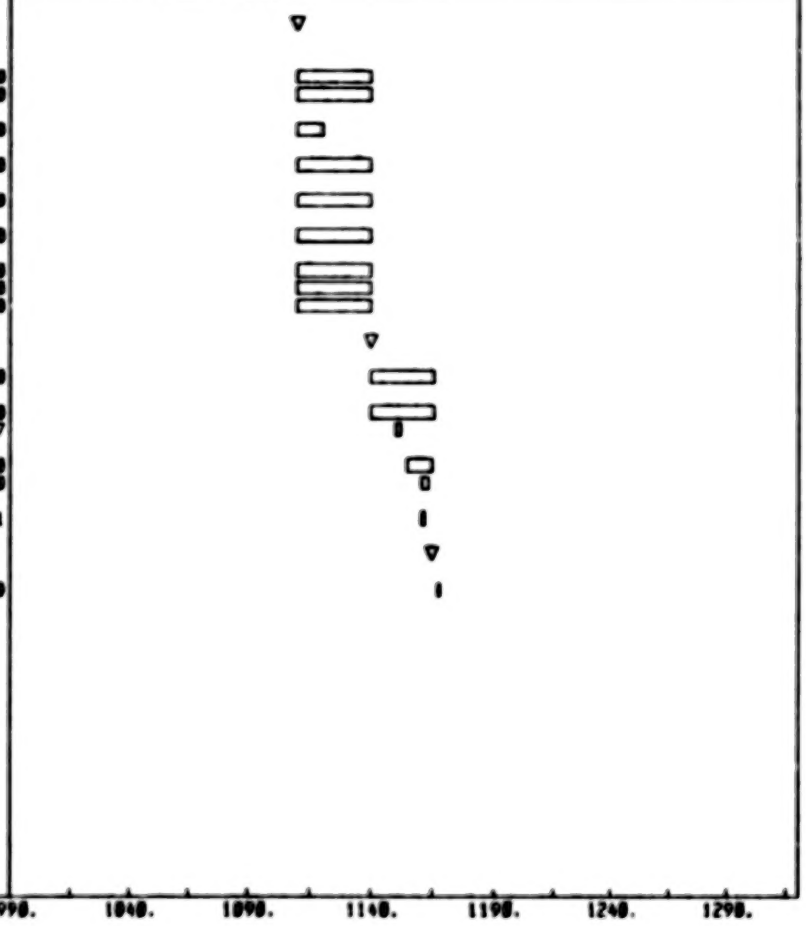


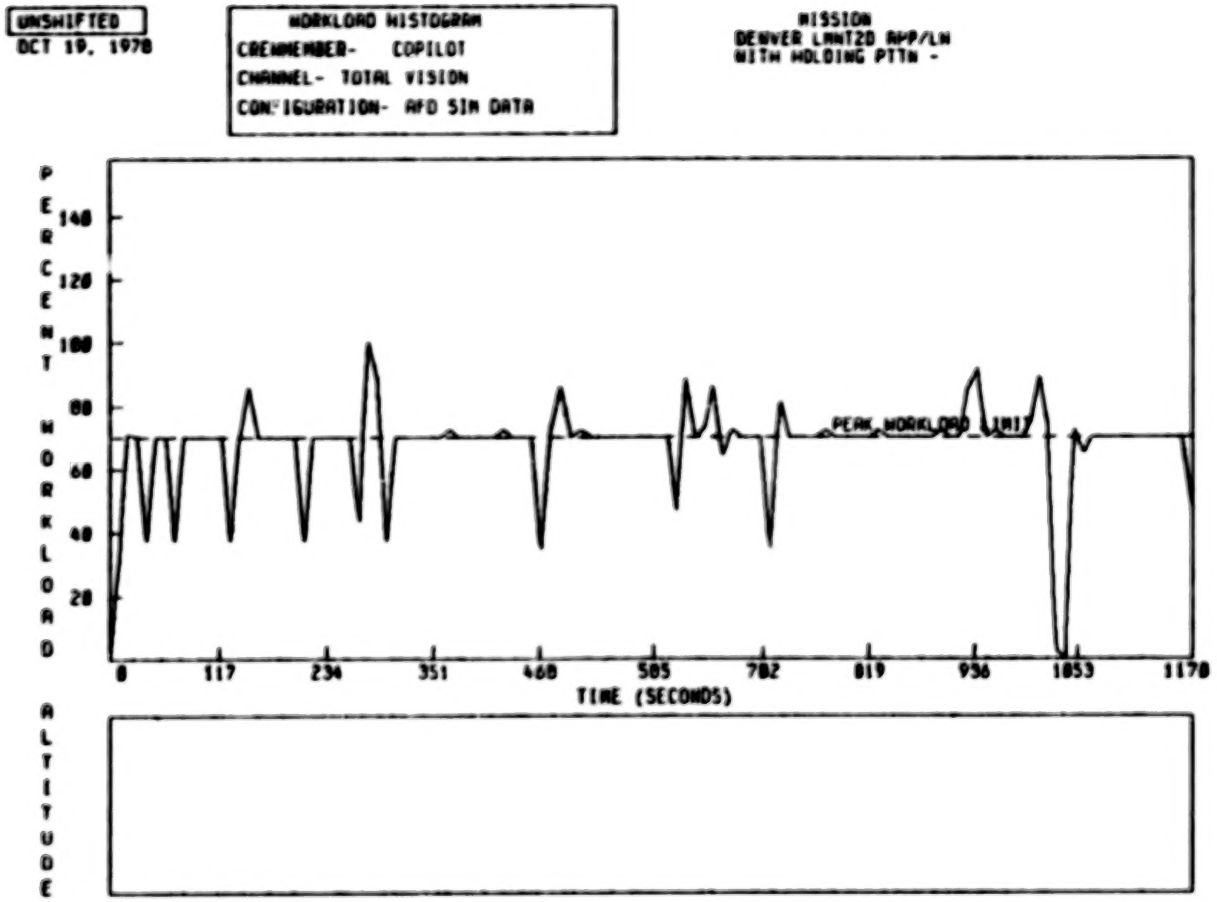
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
160857	SET FLAPS TO FLAPS 40	
160818	FLAP SET PROCEDURE	
ATOLN6	MONITOR A/C ON FINAL APPROACH - PILOT (60 SEC)	
3H 06	MON ALTIMETER	60.00
3L 02	MON VERTICAL SPEED INDIC	60.00
3V 11	MONITOR OUTER MARKER LT ON AND AUDIBLE SIGNAL	0.72
3N 03	START ELAPSED TIME INDIC	2.10
3V 06	MON LOC ANNUN LT GREEN	1.21
3V 09	MON GLIDE SLOPE ANNUN LT GREEN	1.21
1P160873	CALL OUT -(FLAPS 40)	0.70
2J 04	MON FLT PATH ACCEL INDIC	60.00
2J 09	MON FLT PATH ANGLE INDIC	60.00
2J 38	MONITOR LOCALIZER INDICATOR	60.00
2J 39	MON GLIDE SLOPE ATT INDIC	60.00
2J 30	MON SPD ERR BAR	60.00
2J 40	MON EADI RNWY	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
1B 19	MON VHF-2 COMM AUDIO	7.00
1P160875	CALL OUT -(GEAR DOWN AND LANDING CHECK-LIST)	1.80
1PLNDCL4	MON RADIO COMM -(UNITED 24, DENVER TOWER, ROGER, CLEAR TO LAND RUNWAY TWO SIX, WIND TWO ONE ZERO DEGREES AT ZERO NINER.)	4.00
1PLNDCL5		3.00
1P 10	MON VERBAL REPORT	0.70
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44



193

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
ATOLN3	MONITOR A/C ON FINAL APPROACH - PILOT (90 SEC)	
3H 06	MON ALTIMETER	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
2J 04	MON FLT PATH ACCEL INDIC	10.00
2J 05	MON FLT PATH ANGLE INDIC	30.00
2J 38	MONITOR LOCALIZER INDICATOR	30.00
2J 39	MON GLIDE SLOPE ATT INDIC	30.00
2J 30	MON SPD ERR BAR	30.00
2J 40	MON EADI RNWY	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
ATOLNL	MONITOR AIRCRAFT ON FINAL APP	
2J 09	MON FLT PATH ANGLE INDIC	26.00
2J 44	MON EADI RNWY	26.00
2J 24	MON 100 FT INDIC ON EADI	2.27
2J 41	MON EADI DRIFT INDIC	10.00
4B 60	SET THRUST LEVERS TO IDLE	2.50
3V 28	MON FLARE LT ON ANUN PANEL- GREEN	1.21
100865	DESCEND THRU -DECISION HEIGTH	
1P 11	MON VERBAL REPORT	0.00

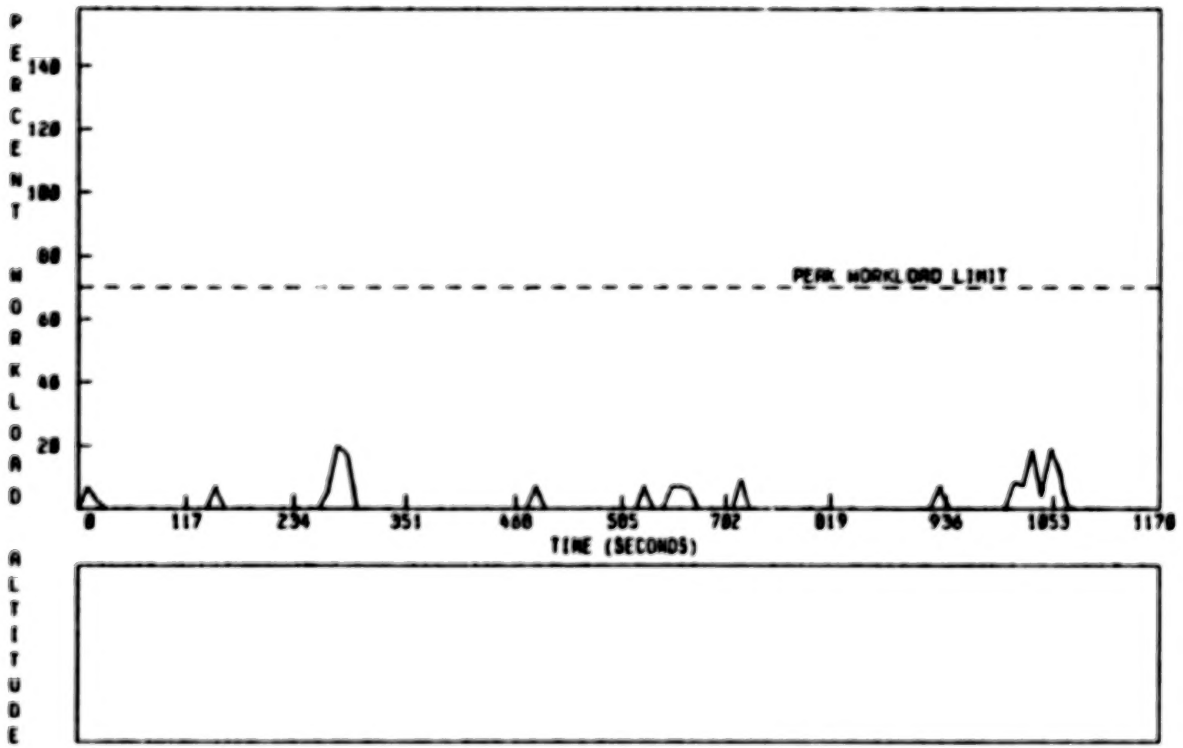



UNSHIFTED
OCT 19, 1978
WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- TOTAL VISION
CONFIGURATION- AFD SIM DATA
MISSION
DENVER LANTZD APP/LN
WITH HOLDING PTTN -
PERCENT WORKLOAD
140
120
100
80
60
40
20
PEAK WORKLOAD (101)
0
117
234
351
468
585
702
819
936
1053
1170
TIME (SECONDS)
ALTITUDE

UNSHIPTED
OCT 19, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- TOTAL MOTOR
CONFIGURATION- AFD SIM DATA

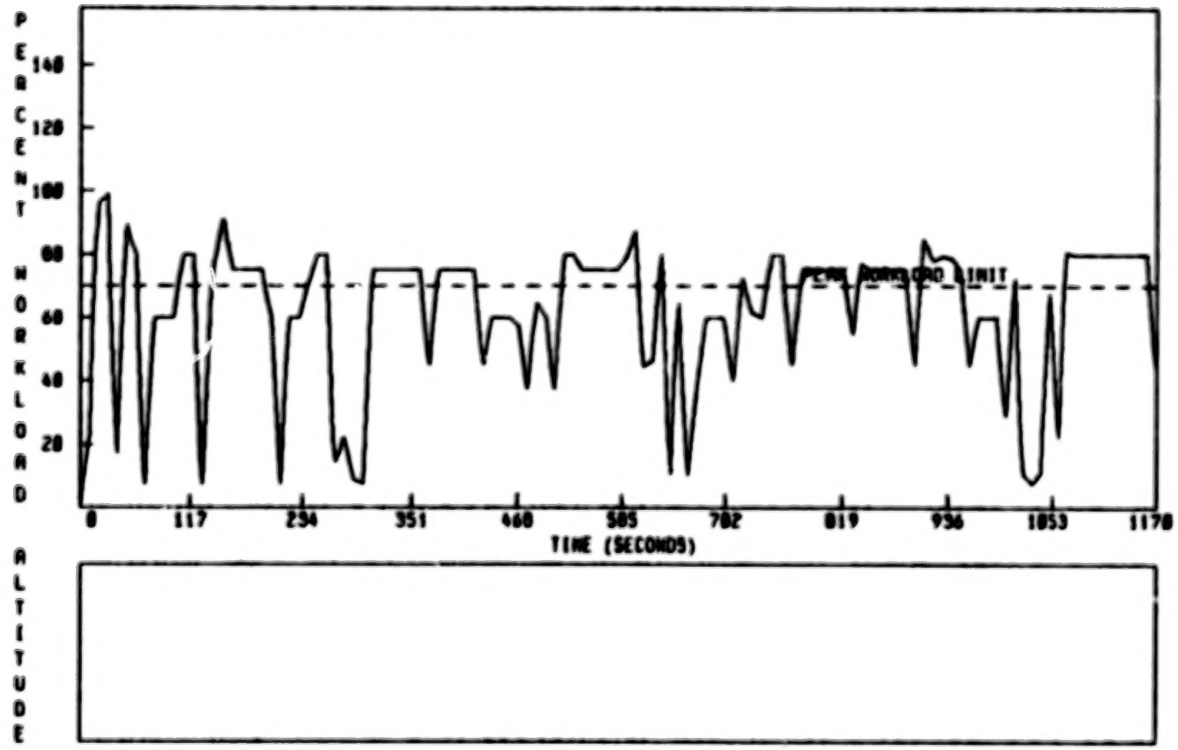
MISSION
DENVER LRNTZD APP/LN
WITH HOLDING PTTN -



UNSHIFTED
OCT 19, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- COGNITION
CONFIGURATION- AFD SIM DATA

MISSION
DENVER LRNTZD APP/LN
WITH HOLDING PTTN -



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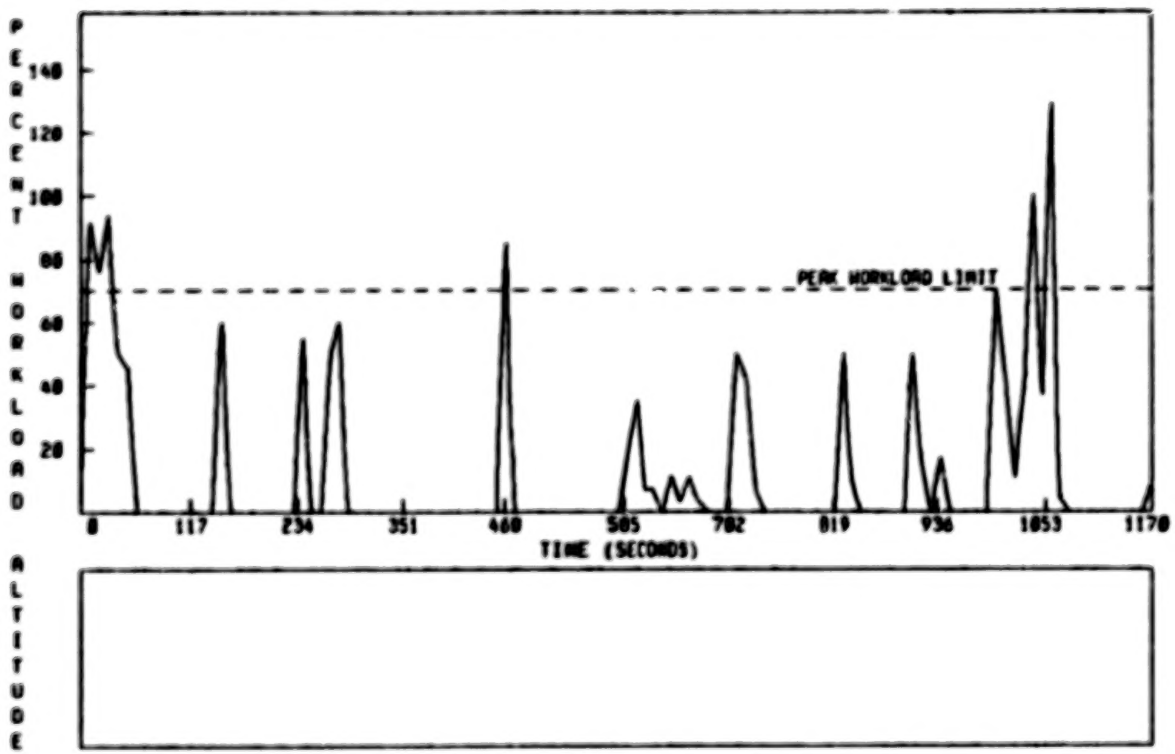
UNSHIFTED
OCT 19, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- TOTAL COMMUNICATION
CONFIGURATION- AFD SIM DATA

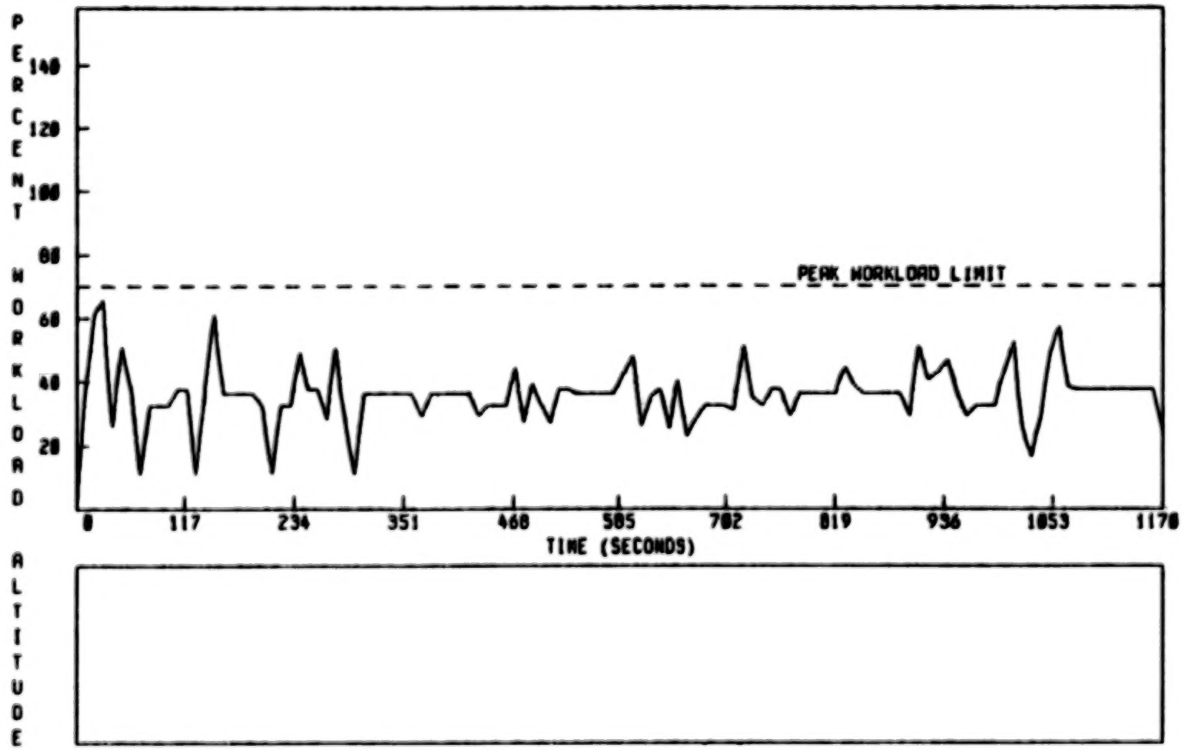
MISSION
DENVER LANTZD APP/LN
WITH HOLDING PTTN -



UNSHIFTED
OCT 19, 1978

WORKLOAD HISTOGRAM
CREWMEMBER- COPILOT
CHANNEL- WEIGHTED CHANNEL AVERAGE
CONFIGURATION- AFD SIM DATA

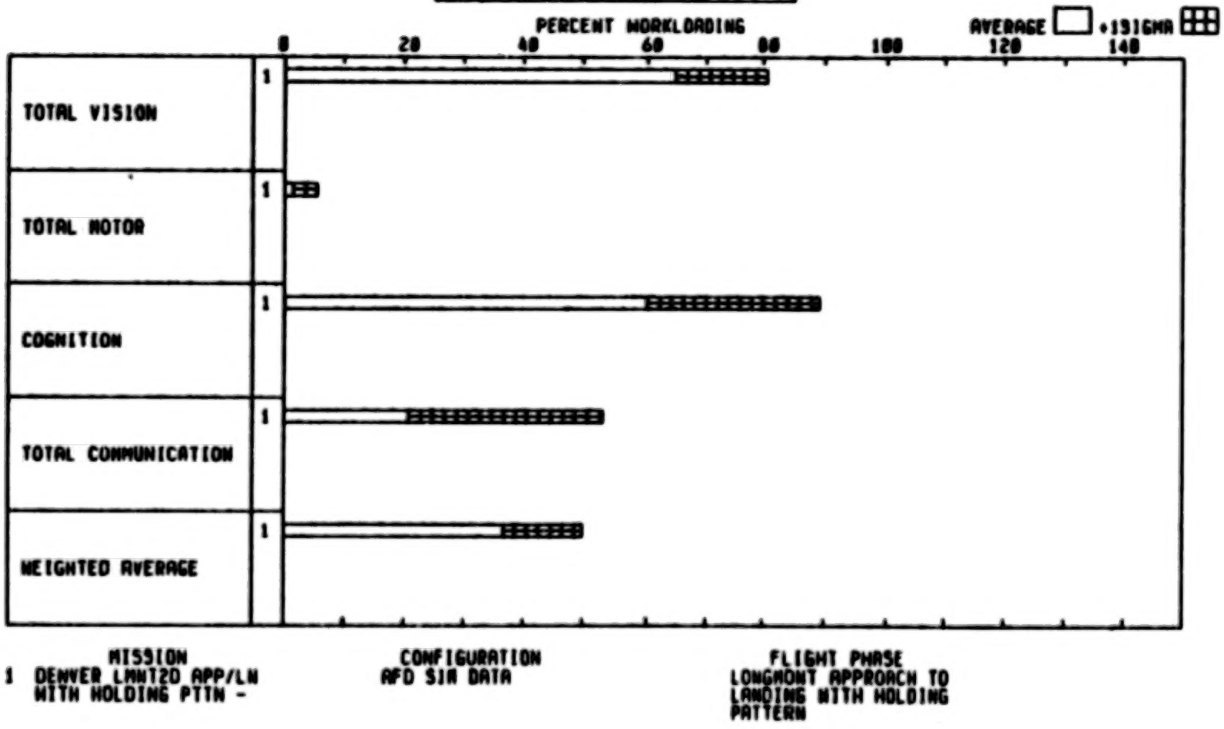
MISSION
DENVER LANTZD APP/LN
WITH HOLDING PTTN -



UNSHIFTED

WORKLOAD SUMMARY
CREWMEMBER - COPILOT

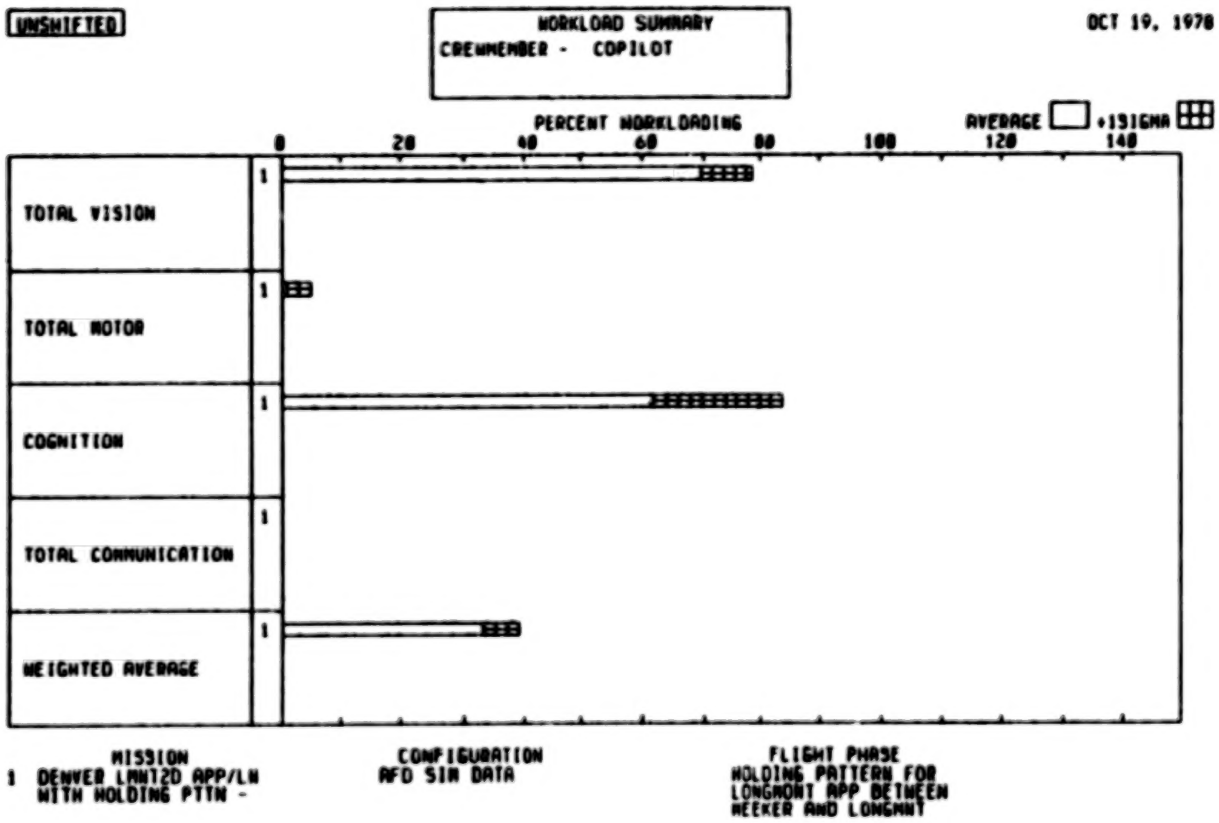
OCT 19, 1978



MISSION
1 DENVER LMNT2D APP/LN WITH HOLDING PTTN -

CONFIGURATION
AFD SIM DATA

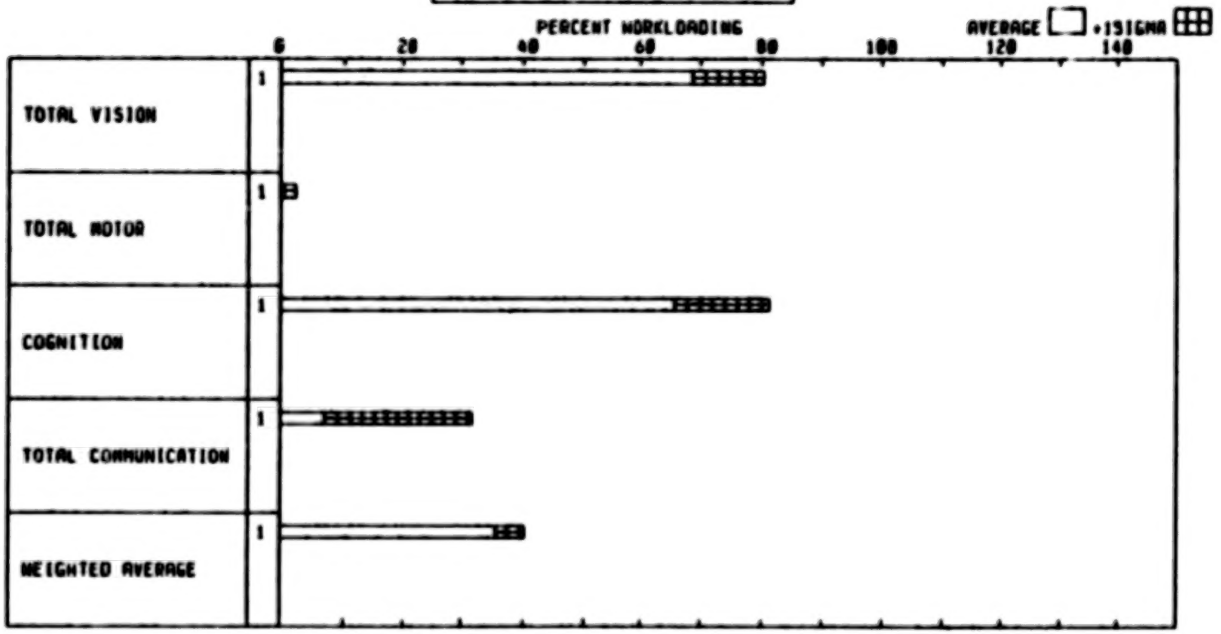
FLIGHT PHASE
LONGMONT APPROACH TO LANDING WITH HOLDING PATTERN


UNSHIFTED
WORKLOAD SUMMARY
CREWMEMBER - COPILOT
OCT 19, 1978
PERCENT WORKLOADING
AVERAGE
+1SIGMA
0
20
40
60
80
100
120
140
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 DENVER LMNT2D APP/LN WITH HOLDING PTTN -
CONFIGURATION
AFD SIM DATA
FLIGHT PHASE
HOLDING PATTERN FOR LONGMONT APP BETWEEN REEKER AND LONGMNT

UNSHIFTED

WORKLOAD SUMMARY
CREWMEMBER - COPILOT

OCT 19, 1978



MISSION
1 DENVER LAN120 APP/LN
WITH HOLDING PTTN -

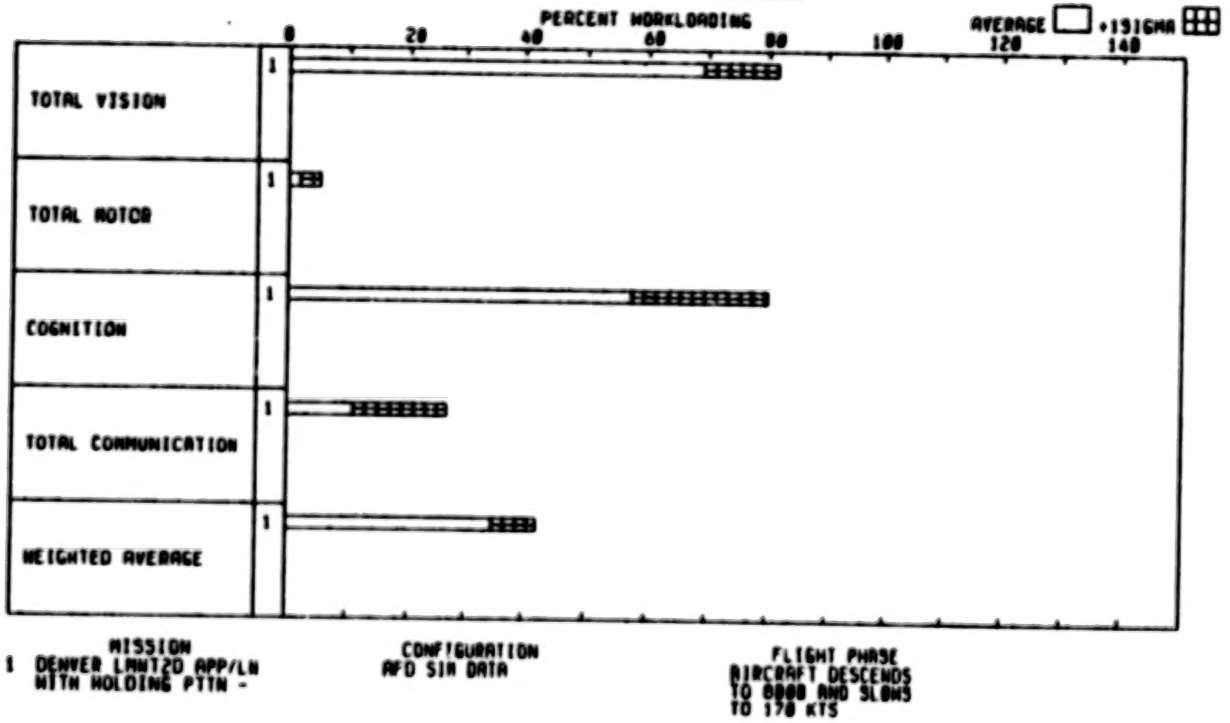
CONFIGURATION
AFD SIM DATA

FLIGHT PHASE
AIRCRAFT DEPARTS HLD
DESCENDING TO 11000

UNSHIFTED

WORKLOAD SUMMARY
CREWMEMBER - COPILOT

OCT 19, 1978

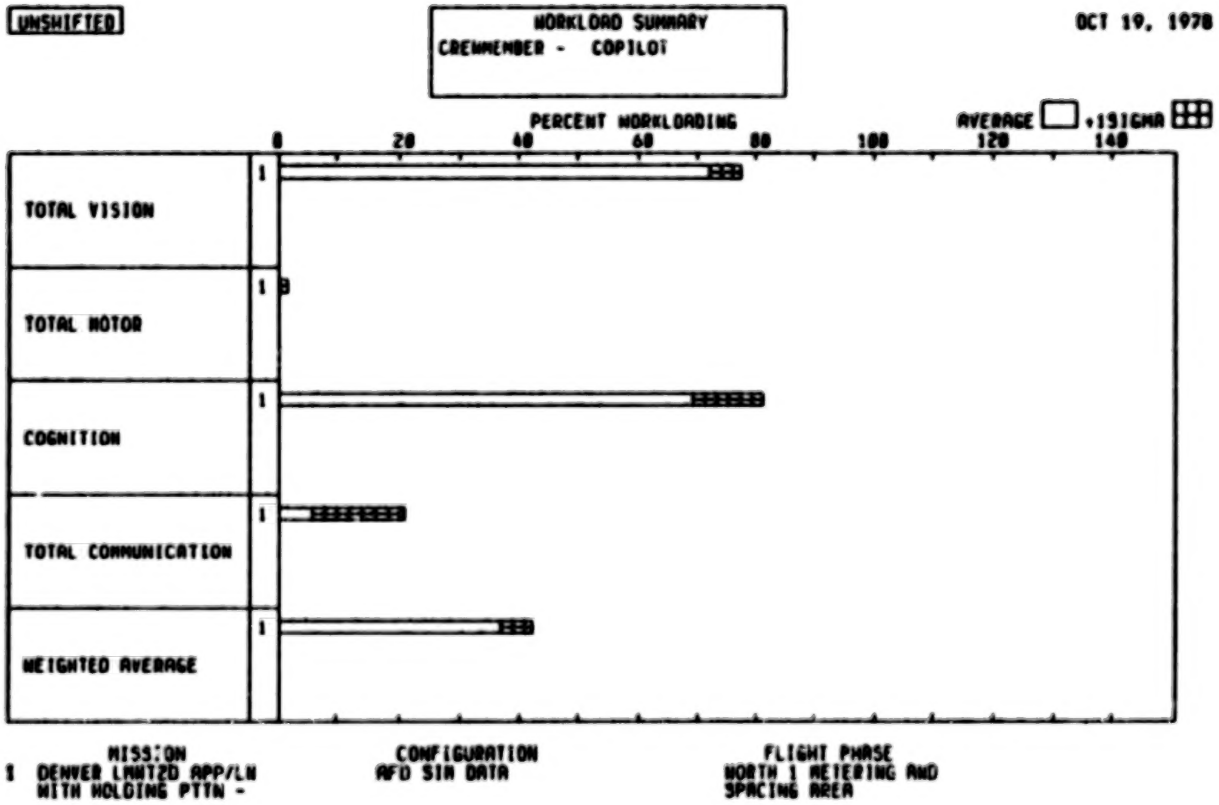


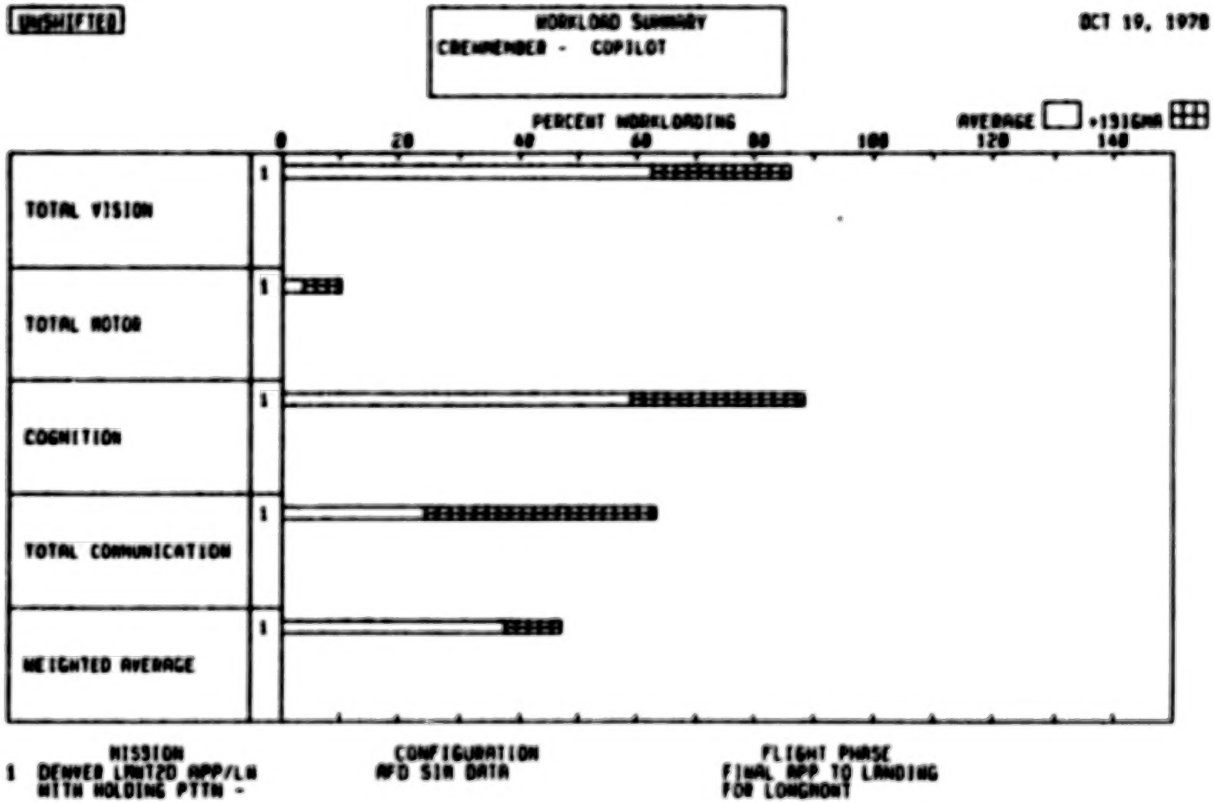
MISSION
1 DENVER LAN12D APP/LN
WITH HOLDING PTTN -

CONFIGURATION
AFD SIM DATA

FLIGHT PHASE
AIRCRAFT DESCENDS
TO 8000 AND SLOWS
TO 170 KTS

1


UNSHIFTED
WORKLOAD SUMMARY
CREWMEMBER - COPILOT
OCT 19, 1978
PERCENT WORKLOADING
AVERAGE
+1SIGMA
0
20
40
60
80
100
120
140
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 DENVER LNAV2D APP/LN WITH HOLDING PTTN -
CONFIGURATION
AFD SIM DATA
FLIGHT PHASE
NORTH 1 METERING AND SPACING AREA

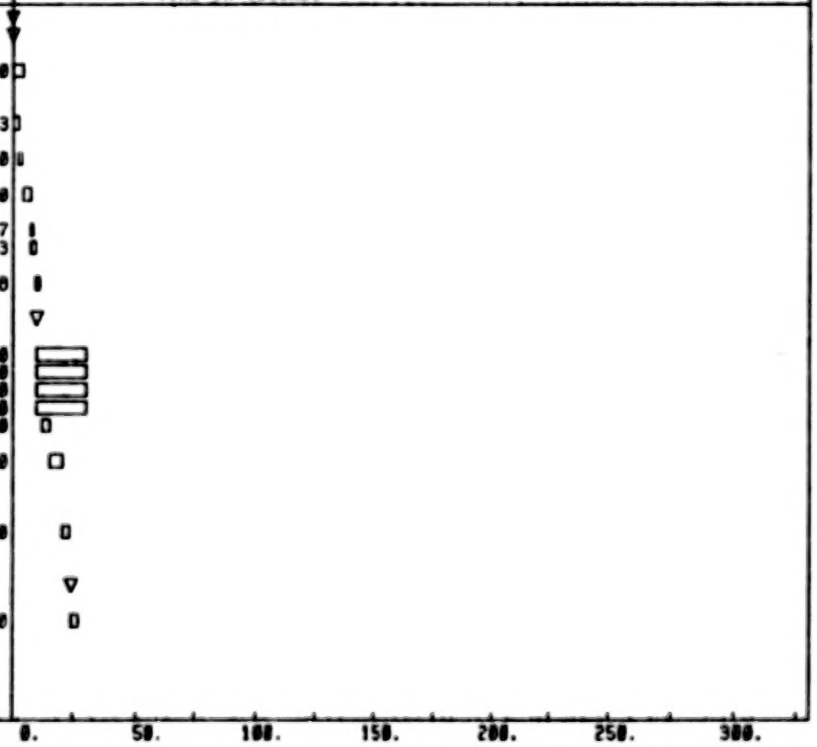

UNSHIFTED
WORKLOAD SUMMARY
CREWMEMBER - COPILOT
OCT 19, 1978
PERCENT WORKLOADING
AVERAGE
+1SIGMA
0
20
40
60
80
100
120
140
TOTAL VISION
TOTAL MOTOR
COGNITION
TOTAL COMMUNICATION
WEIGHTED AVERAGE
1
MISSION
1 DENVER LMT2D APP/LN
WITH HOLDING PTTN -
CONFIGURATION
AFD SIM DATA
FLIGHT PHASE
FINAL APP TO LANDING
FOR LONGHORN

UNSHIFTED

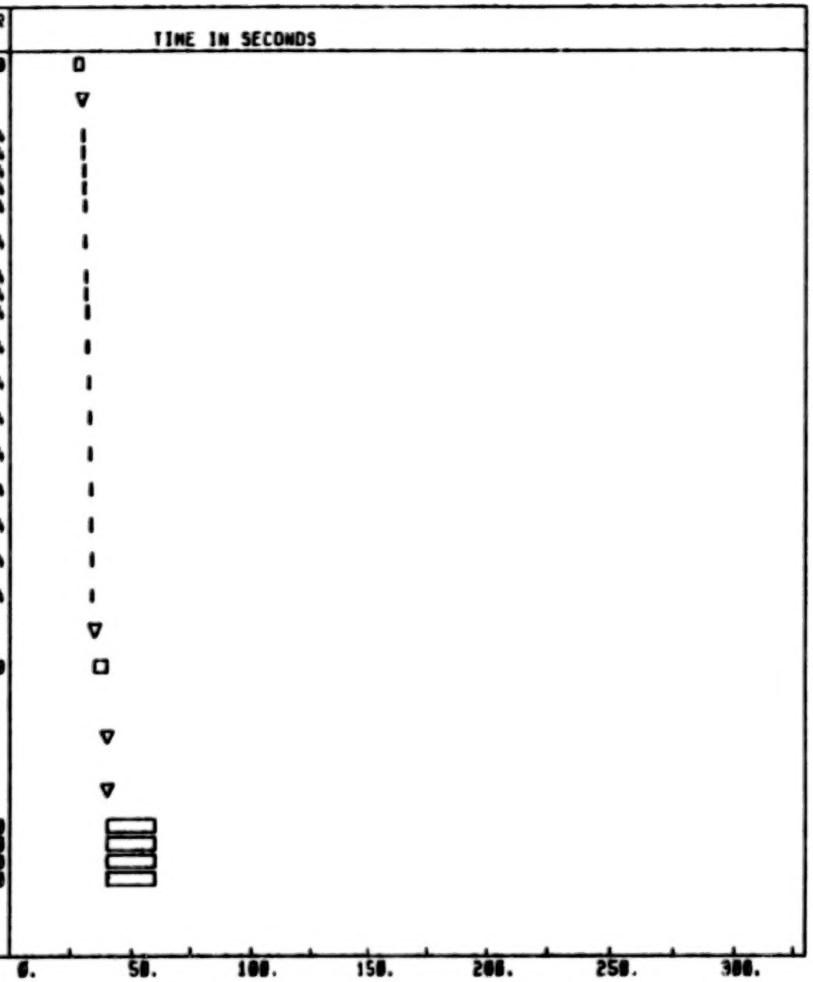
MISSION TIMELINE
MISSION - DENVER LMNT2D APP/LN
WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE - LONGMONT APPROACH TO LANDING WITH HOLDING PATTERN
CREWMEMBER - COPILOT

OCT 19, 1978

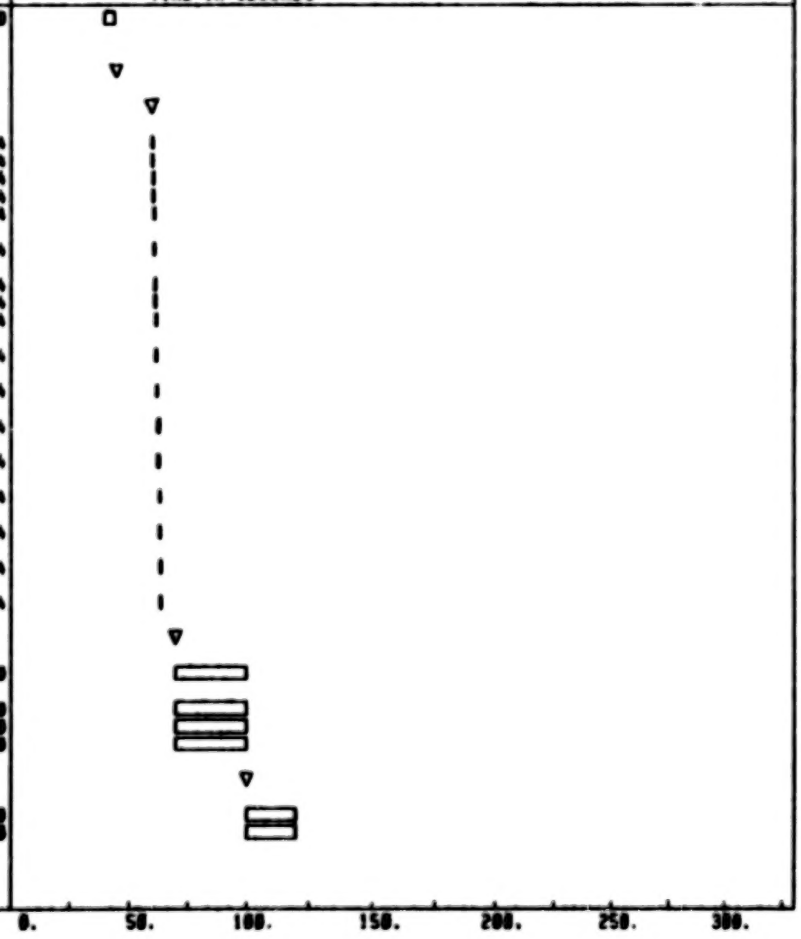
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LMNT01	START OF FLIGHT COM	
140023	REPORT 1000 FT TO LEVEL OFF	
1PLMNT01	MSG- UNITED 76, CONTACT DENVER APRCH CNTRL ON 120.05	4.50
3H 02	MON CORR BARO ALT INDIC	2.13
1P140045	CALL OUT -(1000 FEET TO LEVEL OFF)	1.70
1PLMNT07	COM- UNITED 76,ROGER - DENVER APRCH 120.05	3.00
1R 07	MON VHF-2R FREQ IND	0.77
1R 08	SET VHF-2R FREQ-WHOLE NO.S	2.03
1R 09	SET VHF-2R FREQ-FRACTIONS	1.50
ISC205	FLIGHT INSTRUMENT SCAN - D	
3A 14	MON AIRSPEED INDIC	20.00
2K 16	MON EHSI DISPLAY	20.00
2J 43	MON EADI	20.00
3L 04	MON IVSI INDIC	20.00
1PLMNT03	COM- DENVER APRCH UNITED 76	3.00
1PLMNT04	MSG- UNITED76,DENVER . PROCEED TO LNGMNT . DESCEND MAINTAIN 16000	5.00
1PLMNT05	COM- UNITED76 ROGER OUT OF 17-5 FOR 16000	3.00
LMNT02	DESCENT INSTRUCTIONS TO 15000	
1PLMNT06	MSG- UNITED76 DSCND MAINTAIN 15000	3.00



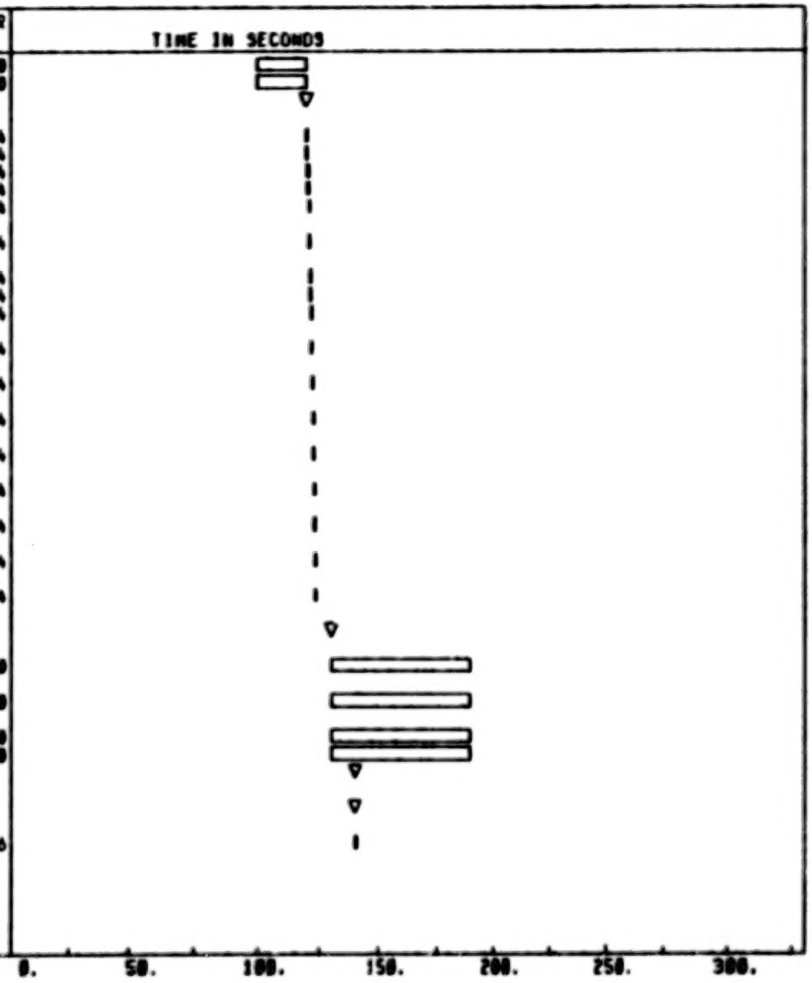
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
1PLMNT07	COM- UNITED76 ROGER DESCEND TO 15000	3.00
030007	ENGINE INSTRUMENT SCAN	
7F 25	MON ENG NO 1 EPR IND	0.44
7F 38	MON ENG NO 2 EPR IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 28	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
LMNT03	RECEIVE HOLDING PTN INSTRUCTIONS	
1PLMNT08	MSG- UNITED76 HOLD AT LONGMONT, EXPECT FURTHER CLEARANCE AT 16 40	5.00
ALTCPT	PILOT MONITORS EADI-ESHI SYMBOLS FOR ALTITUDE CAPTURE	
ISC205	FLIGHT INSTRUMENT SCAN - D	
2J 43	MON EADI	20.00
3L 04	MON IVSI INDIC	20.00
9A 14	MON AIRSPEED INDIC	20.00
2K 16	MON EHSI DISPLAY	20.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
1PLANT89	COM- UNITED76 ROGER WOLD LONGMONT FURTHER CLEARANCE 16 40	4.50
LANT58	UNITED 76 REACHES 15000 AND LEVELS OFF	
030007	ENGINE INSTRUMENT SCAN	
7F 30	MON ENG NO 2 EPR IND	0.44
7F 25	MON ENG NO 1 EPR IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
ISC305	FLIGHT INSTRUMENT SCAN - E	
9A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
2J 42	MON EADI	30.00
9L 02	MON VERTICAL SPEED INDIC	30.00
ISC205	FLIGHT INSTRUMENT SCAN - D	
2K 16	MON EHSI DISPLAY	20.00
2J 43	MON EADI	20.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
9L 04	MON IVSI INDIC	20.00
3A 14	MON AIRSPEED INDIC	20.00
030007	ENGINE INSTRUMENT SCAN	
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
ISC605	FLIGHT INSTRUMENT SCAN - F	
9L 02	MON VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EHSI DISPLAY	60.00
2J 42	MON EADI	60.00
LANT04	DESCENT INSTRUCTIONS TO 14000	
ALT2CH	ALTITUDE CHANGE PROC FOR 2D FLIGHT PATH	
9K 04	MON ALT ALERT BARO SET INDIC	0.76



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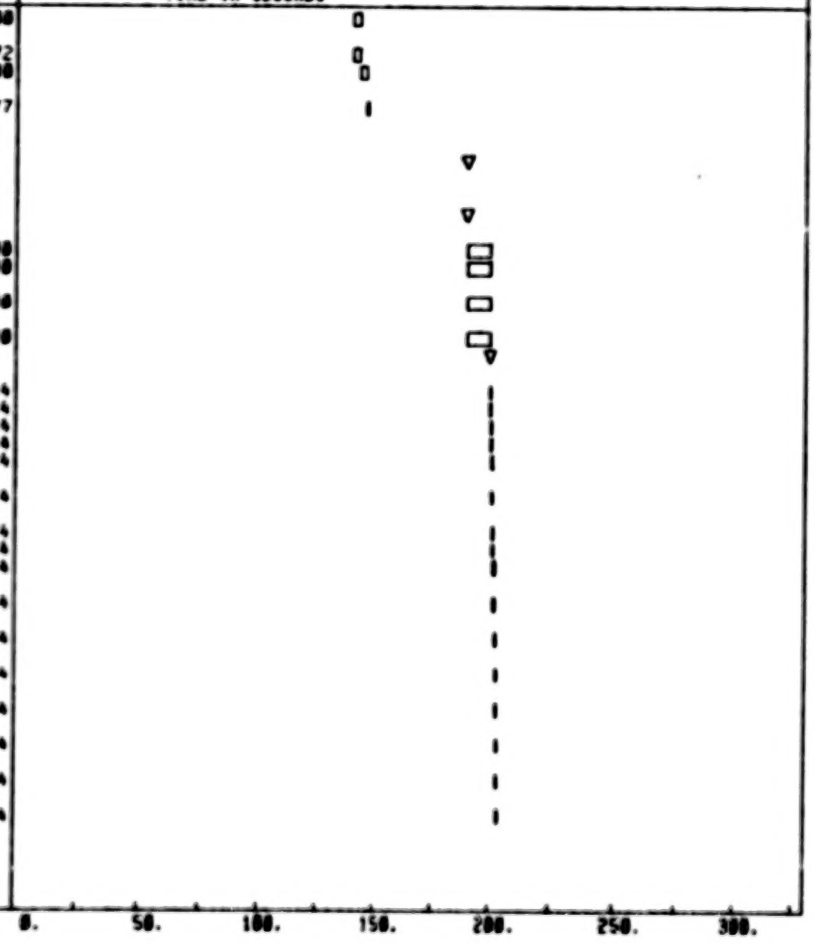
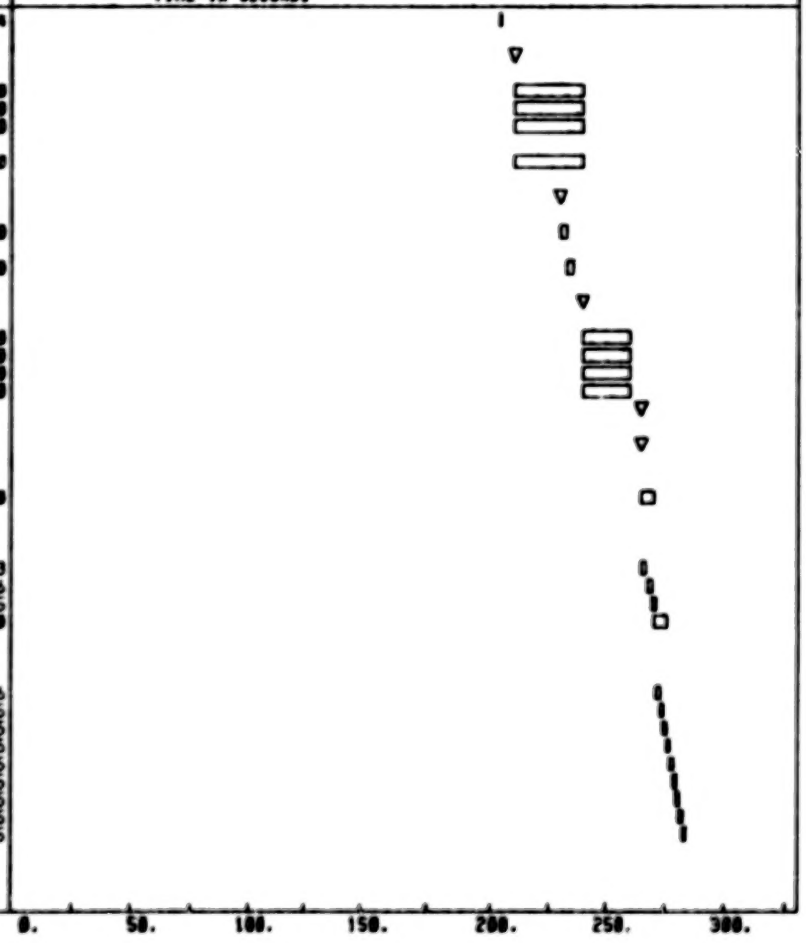
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
1PLMNT10	MSG- UNITED76 DSCND MAINTAIN 14000	3.00
3K 03	SET ALT ALERT BARO	2.72
1PLMNT11	COM- UNITED76 ROGER CLEARED TO 14000	3.00
2H 22	MONITOR FPA SEL MODE LT GREEN - FPA SEL MODE ENGAGED	0.77
ALTCPT	PILOT MONITORS EADI-ESHI SYMBOLS FOR ALTITUDE CAPTURE	
ISC105	FLIGHT INSTRUMENT SCAN - 8	
2J 42	MON EADI	10.00
5L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14 030007	MON EHSI DISPLAY ENGINE INSTRUMENT SCAN	10.00
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
7P 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
ISC305	FLIGHT INSTRUMENT SCAN - E	
2K 14	MON EHSI DISPLAY	30.00
2J 42	MON EADI	30.00
5L 82	MON VERTICAL SPEED INDIC	30.00
5A 10	MONITOR AIRSPEED INDIC	30.00
LANT05	RECEIVE SPEED REDUCTION TO 250 INST	
1PLANT12	MSG- UNITED76 REDUCE SPEED TO 250KTS	3.00
1PBY&Z10	RADIO- UNITED 24 ROGER, SLOW TO 250	2.50
ISC205	FLIGHT INSTRUMENT SCAN - D	
3L 04	MON IVSI INDIC	20.00
5A 14	MON AIRSPEED INDIC	20.00
2K 16	MON EHSI DISPLAY	20.00
2J 43	MON EADI	20.00
LANT06	RECEIVE HOLDING PTN INSTRUCTIONS	
LAHLD6	COPILOT SETS UP HLDG PATTERN FOR LONGMONT INTERSECTION	
1PLANT13	MSG- UNITED76 HOLD AT LONGMONT EXPECT FURTHER CLEARANCE AT 16 40 42	5.50
2L 67	PRESS SEL KEY	2.03
2L 19	MON LINE 8 MESSAGE	2.06
2L 26	PRESS NO.1 KEY	1.35
1PLANT14	COM- UNITED76 ROGER HOLD LONGMONT EXPECT FURTHER CLEARANCE AT 16 40 42	5.50
2L 19	MON LINE 8 MESSAGE	2.06
2L 48	PRESS L KEY	1.35
2L 51	PRESS O/SID KEY	1.35
2L 50	PRESS N KEY	1.35
2L 48	PRESS G/ALT KEY	1.35
2L 49	PRESS M/GS KEY	1.35
2L 51	PRESS O/SID KEY	1.35
2L 50	PRESS N KEY	1.35
2L 56	PRESS T/PTA KEY	1.35



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CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
2L 19	NON LINE 0 MESSAGE	2.86	0
2L 23	PRESS CLR KEY	1.35	0
2L 21	PRESS EXEC KEY	1.46	0

0. 50. 100. 150. 200. 250. 300.

UNSHIFTED

MISSION TIMELINE
MISSION - DENVER LANT2D APP/LN
WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE -HOLDING PATTERN FOR
LONGMONT APP BETWEEN
MEEKER AND LONGMNT
CREWMEMBER - COPILOT

OCT 19, 1978

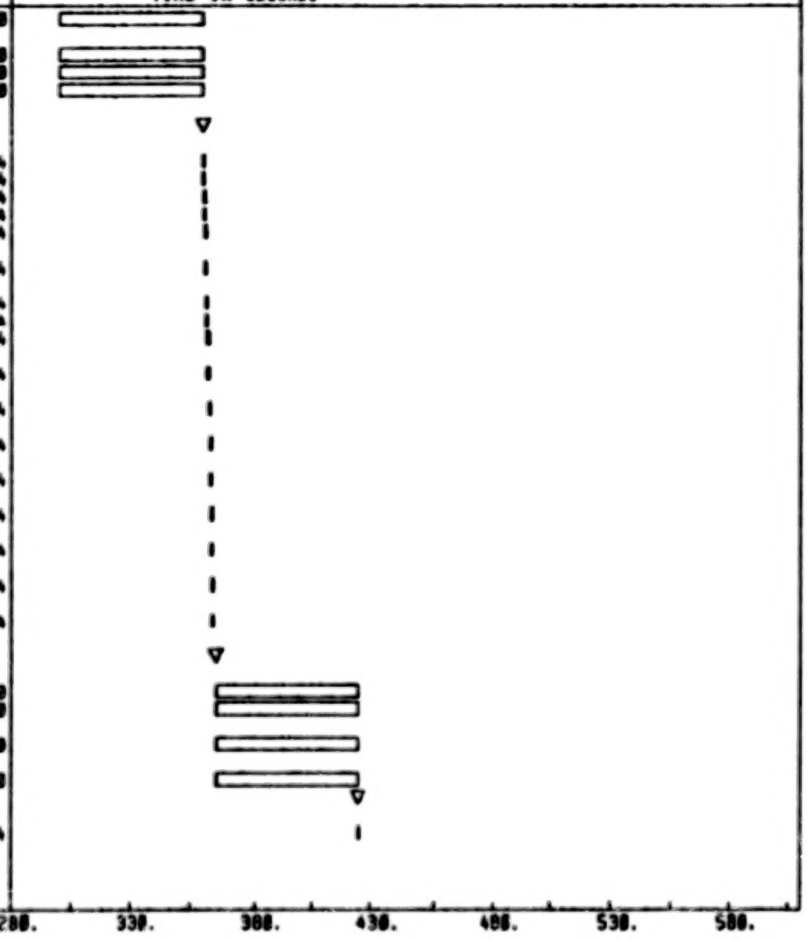
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
LANT51	UNITED 76 CROSSES LONGMONT INTSCTN AND ENTERS HLDG PTN AT 210KTS		▽
030807	ENGINE INSTRUMENT SCAN		▽
7F 30	MON ENG NO 2 EPR IND	0.44	I
7F 25	MON ENG NO 1 EPR IND	0.44	I
7F 21	MON NO 1 ENG N1 IND	0.44	I
7F 22	MON NO 2 ENG N1 IND	0.44	I
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44	I
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44	I
7F 23	MON NO 1 ENG N2 IND	0.44	I
7F 24	MON NO 2 ENG N2 IND	0.44	I
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44	I
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44	I
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44	I
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44	I
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44	I
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44	I
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44	I
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44	I
7F 28	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44	I
I9C605	FLIGHT INSTRUMENT SCAN - F		▽

200. 330. 300. 430. 400. 530. 500.

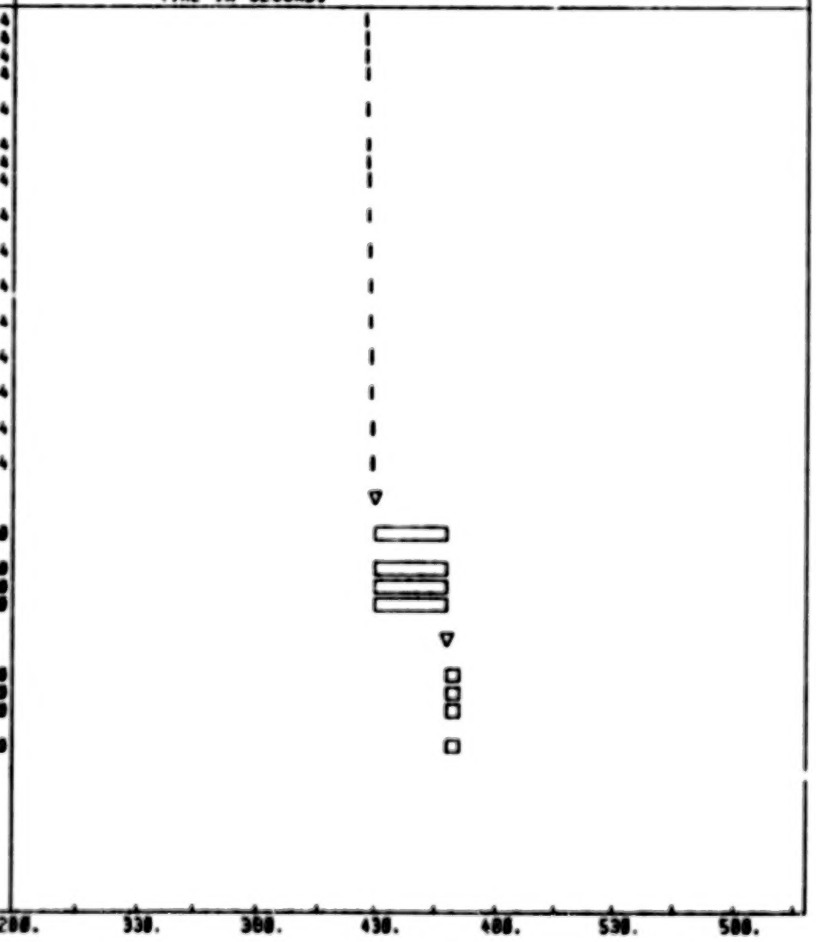
213

214

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
9A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EHSI DISPLAY	60.00
2J 42	MON EADI	60.00
9L 02	MON VERTICAL SPEED INDIC	60.00
030007	ENGINE INSTRUMENT SCAN	
7F 30	MON ENG NO 2 EPR IND	0.44
7F 25	MON ENG NO 1 EPR IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
ISC605	FLIGHT INSTRUMENT SCAN - F	
2J 42	MON EADI	60.00
3L 02	MON VERTICAL SPEED INDIC	60.00
9A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EHSI DISPLAY	60.00
030007	ENGINE INSTRUMENT SCAN	
7F 30	MON ENG NO 2 EPR IND	0.44



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
7F 25	MON ENG NO 1 EPR IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
ISC005	FLIGHT INSTRUMENT SCAN - E	
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
2J 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
ISC055	FLIGHT INSTRUMENT SCAN - A	
2K 16	MON EHSI DISPLAY	5.00
2J 42	MON EADI	5.00
3L 02	MON VERTICAL SPEED INDIC	5.00
3A 10	MONITOR AIRSPEED INDIC	5.00



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UNSHIFTED

MISSION TIMELINE
MISSION - DENVER LAN120 APP/LN
WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE -AIRCRAFT DEPARTS HLD
DESCENDING TO 11000

CREWMEMBER - COPILOT

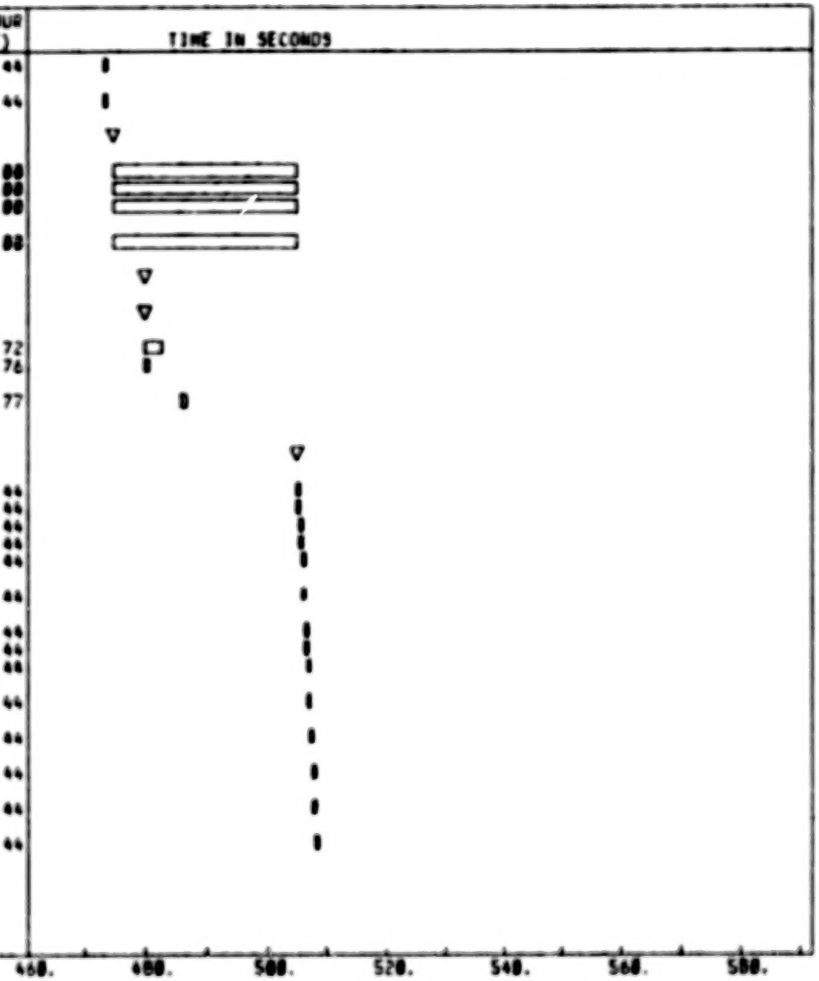
OCT 19, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LANT52	UNITED 76 DEPARTS HLDG PTN CONTINUING FLIGHT PATH	
LANT07	RECEIVE DESCENT INST AND SPEED INCREASE	
IPLANT15	MSG- UNITED76 INCRSE SPEED TO 220KTS DSCND MAINTAIN 11000	4.50
IPLANT16	COM- UNITED76 ROGER DESCEND MAINTAIN 11000 SPEED 220	4.00
030007	ENGINE INSTRUMENT SCAN	
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 10	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 18	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44

TIME IN SECONDS

460. 480. 500. 520. 540. 560. 580.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
15C305	FLIGHT INSTRUMENT SCAN - E	
2K 14	MON EHSI DISPLAY	30.00
2J 42	MON EADI	30.00
5L 02	MON VERTICAL SPEED INDIC	30.00
5A 10	MONITOR AIRSPEED INDIC	30.00
LANT50	PILOT SETS HLD PTN SPEED ON CAS INDIC	
ALT2CH	ALTITUDE CHANGE PROC FOR 2D FLIGHT PATH	
5K 03	SET ALT ALERT BARO	2.72
5K 04	MON ALT ALERT BARO SET INDIC	0.76
2H 22	MONITOR FPA SEL MODE LT GREEN - FPA SEL MODE ENGAGED	0.77
030007	ENGINE INSTRUMENT SCAN	
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 18	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44



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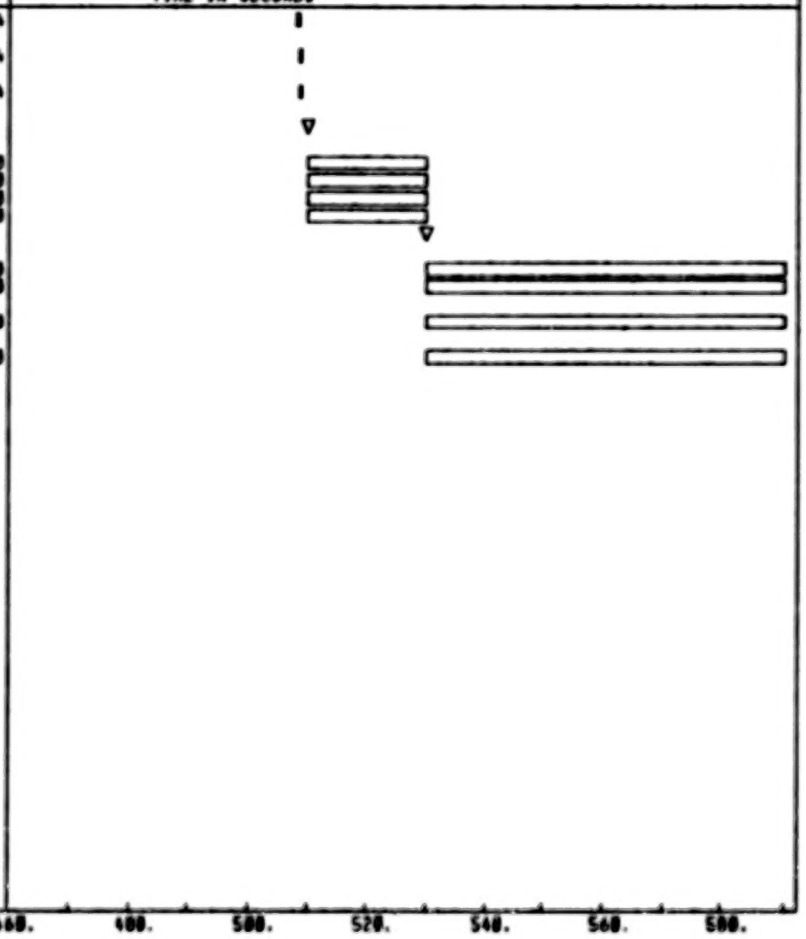
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
7F 11	MON NO 1 ENG OIL QTY INDIC	8.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	8.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	8.44
ISC205	FLIGHT INSTRUMENT SCAN - D	
2K 16	MON EHSI DISPLAY	20.00
2J 43	MON EADI	20.00
9L 04	MON IVSI INDIC	20.00
9A 14	MON AIRSPEED INDIC	20.00
ISC605	FLIGHT INSTRUMENT SCAN - F	
2J 42	MON EADI	60.00
9L 02	MON VERTICAL SPEED INDIC	60.00
9A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EHSI DISPLAY	60.00



UNSHIFTED

MISSION TIMELINE

MISSION - DENVER LAN12D APP/LN WITH HOLDING PTTN -
CONFIGURATION - AFO SIM DATA
FLIGHT PHASE - AIRCRAFT DESCENDS TO 8000 AND SLOWS TO 170 KTS
CREWMEMBER - COPILOT

OCT 19, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LAN153	UNITED 76 CROSSES BRIGHTON INTSCTN @ 11000. LEVELS OFF AND SLOWS TO 170	
LAN108	RECEIVE SPEED REDUCTION INSTRUCTIONS-170	
IPLAN117	MSG- UNITED76 REDUCE SPEED TO 1 KTS	3.00
ALTCP1	PILOT MONITORS EADI-EHSI SYMBOLS FOR ALTITUDE CAPTURE	
ISC155	FLIGHT INSTRUMENT SCAN - C	
3A 14	MON AIRSPEED INDIC	15.00
2K 16	MON EHSI DISPLAY	15.00
2J 43	MON EADI	15.00
3L 04	MON IVSI INDIC	15.00
IPLAN118	COM- UNITED76 ROGER SLOW TO 170	2.50
I60011	SET FLAPS TO FLAPS 1	
IP 10	MON VERBAL REPORT	0.70
4E 07	SET FLAP CONT LEVER TO FLAPS 1	2.69
4E 15	MONITOR FLAP POSITION INDICATOR	2.23
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50
IP160050	CALL OUT -(FLAPS 1)	0.70
ISC155	FLIGHT INSTRUMENT SCAN - C	
3L 04	MON IVSI INDIC	15.00
3A 14	MON AIRSPEED INDIC	15.00
2K 16	MON EHSI DISPLAY	15.00

TIME IN SECONDS

500. 630. 600. 730. 700. 830. 800.

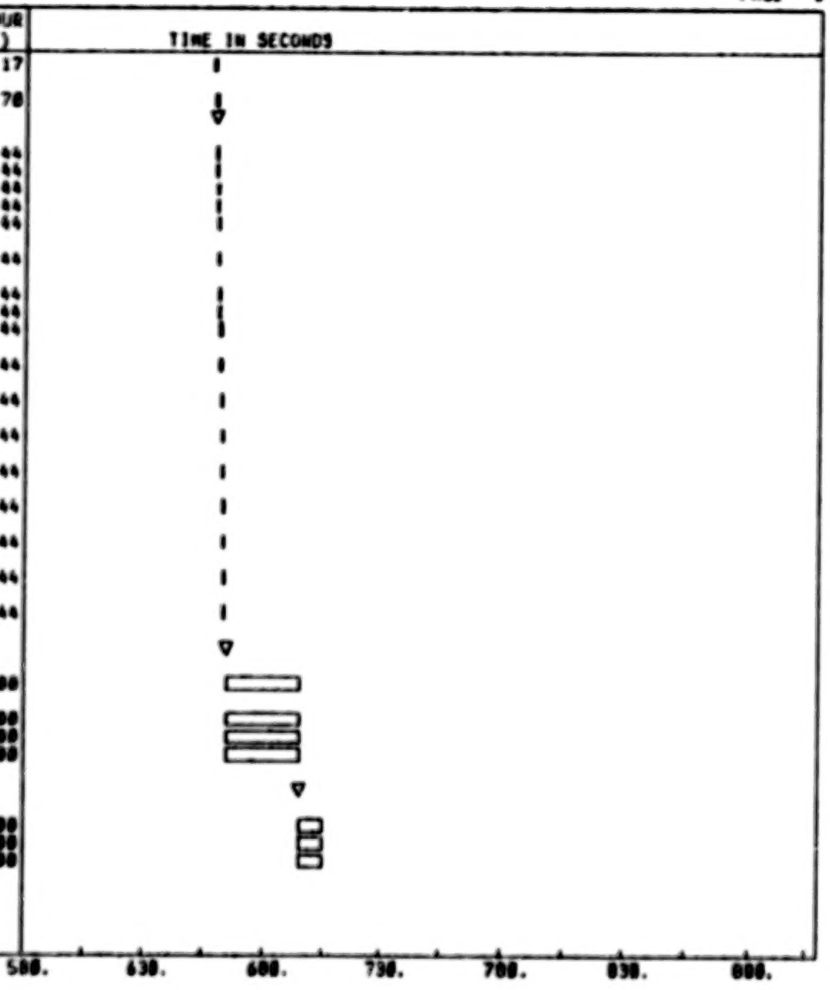
219

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
2J 43	MON EADI	15.00
I60017	SET FLAPS TO FLAPS 5	
I60018	FLAP SET PROCEDURE	
1P 10	MON VERBAL REPORT	0.70
4E 09	SET FLAP CONT LEVER TO FLAPS 5	2.69
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17
4E 15	MONITOR FLAP POSITION INDICATOR	2.23
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17
1P160061	CALL OUT -[FLAPS 5]	0.70
ISC105	FLIGHT INSTRUMENT SCAN - B	
ALT2CH	ALTITUDE CHANGE PROC FOR 2D FLIGHT PATH	
3A 10	MONITOR AIRSPEED INDIC	10.00
2K 14	MON EHSI DISPLAY	10.00
3K 03	SET ALT ALERT BARO	2.72
5K 04	MON ALT ALERT BARO SET INDIC	0.76
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
LMNT54	UNITED 76 REACHES 170KTS AND RESUMES DESCENT TO 8000	
2H 22	MONITOR FPA SEL MODE LT GREEN - FPA SEL MODE ENGAGED	0.77
I60025	SET FLAPS TO FLAPS 15	
I60018	FLAP SET PROCEDURE	
1P 10	MON VERBAL REPORT	0.70
4E 11	SET FLAP CONT LEVER TO FLAPS 15	2.46
4E 15	MONITOR FLAP POSITION INDICATOR	2.23
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50

TIME IN SECONDS

500. 630. 600. 730. 700. 830. 800.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17
1P160862 030007	CALL OUT -(FLAPS 15) ENGINE INSTRUMENT SCAN	0.70
7F 30	MON ENG NO 2 EPR IND	0.44
7F 25	MON ENG NO 1 EPR IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
ISC305	FLIGHT INSTRUMENT SCAN - E	
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
2J 42	MON EADI	30.00
3L 02	MON VERTICAL SPEED INDIC	30.00
ISC105	FLIGHT INSTRUMENT SCAN - B	
2K 14	MON EHSI DISPLAY	10.00
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
3A 10	MONITOR AIRSPEED INDIC	10.00
LANT09	CONTACT DENVER LCL CONTROL 118.3	
1PLANT19	MSG- UNITED76 CONTCT DENVER LOCAL CONTROL ON 118.3	3.50
1PLANT20	COM- UNITED76 ROGER CONTACT DENVER LOCAL 118.3	3.50
ISC305	FLIGHT INSTRUMENT SCAN - E	
3L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
2J 42	MON EADI	30.00
1R 07	MON VHF-2R FREQ IND	0.77
1R 08	SET VHF-2R FREQ-WHOLE NO.S	2.03
1R 09	SET VHF-2R FREQ-FRACTIONS	1.50
1PLANT03	COM- DENVER APRCH UNITED 76	3.00
ALTCPT	PILOT MONITORS EADI-EHSI SYMBOLS FOR ALTITUDE CAPTURE	
ISC205	FLIGHT INSTRUMENT SCAN - D	
3A 14	MON AIRSPEED INDIC	20.00
2K 16	MON EHSI DISPLAY	20.00
2J 43	MON EADI	20.00
3L 04	MON IVSI INDIC	20.00

UNSHIFTED

MISSION TIMELINE
MISSION - DENVER LAMT2D APP/LN
WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE -NORTH I METERING AND SPACING AREA

CREWMEMBER - COPILOT

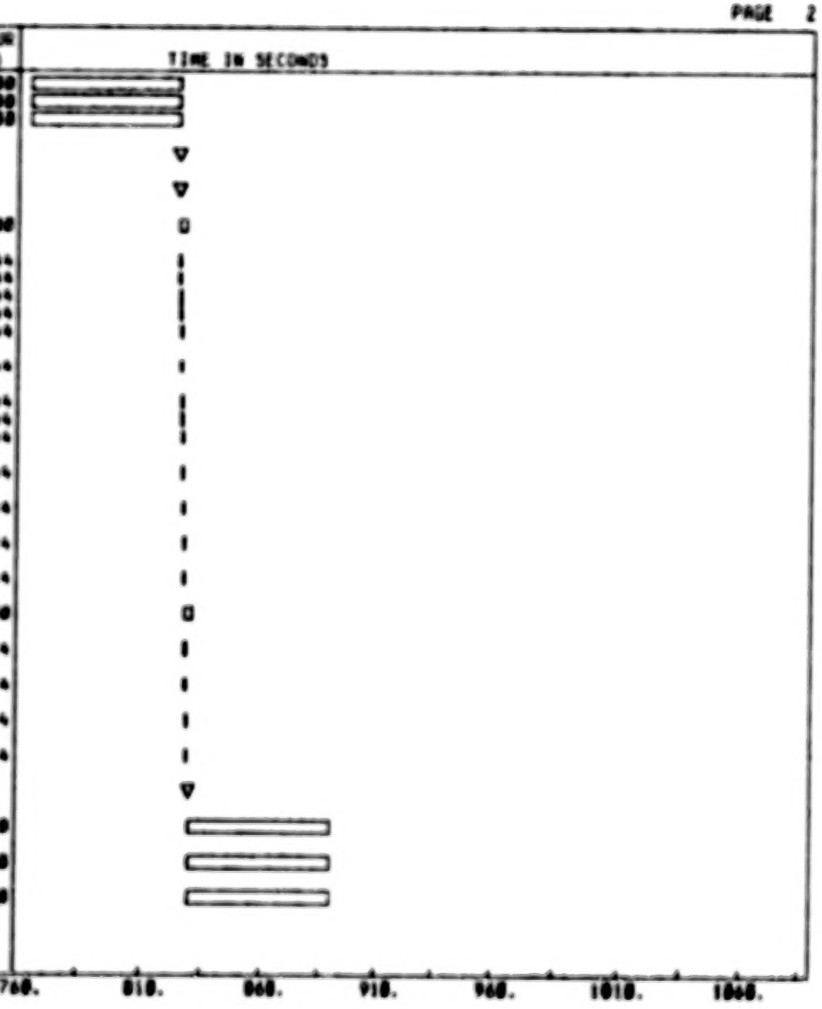
OCT 19, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
LAMTSS	UNITED 76 CROSSES NORTH1 INTSCTN < 17000 170KTS AND 0000	
030007	ENGINE INSTRUMENT SCAN	
7F 25	MON ENG NO 1 EPR IND	0.44
7F 30	MON ENG NO 2 EPR IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 18	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 10	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
ISC005	FLIGHT INSTRUMENT SCAN - F	
3A 10	MONITOR AIRSPEED INDIC	60.00

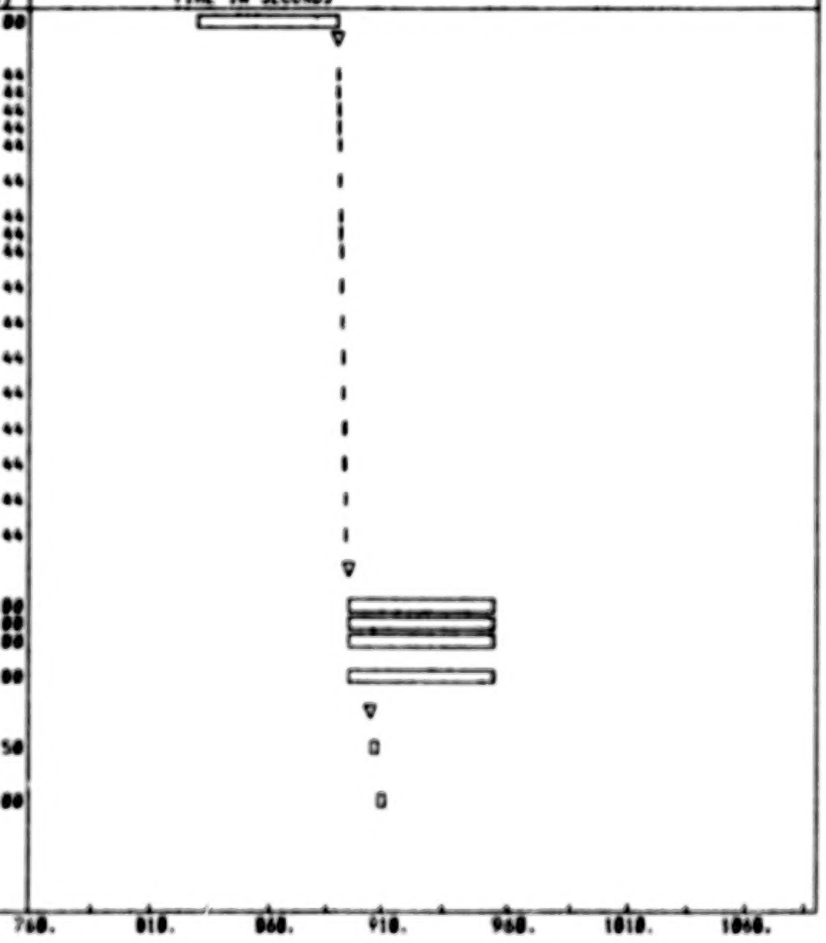
TIME IN SECONDS

760. 810. 860. 910. 960. 1010. 1060.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
2K 15	MON EHSI DISPLAY	60.00
2J 42	MON EADI	60.00
3L 02	MON VERTICAL SPEED INDIC	60.00
LANT10	RECEIVE INST TO FLY DIRECT ALTUDA	
030007	ENGINE INSTRUMENT SCAN	
IPLANT21	MSG- UNITED76 FLY DIRECT TO ALTUDA	3.00
7F 25	MON ENG NO 1 EPR IND	0.44
7F 50	MON ENG NO 2 EPR IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 52	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 51	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 54	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 10	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
IPLANT22	CON- UNITED76 ROGER DIRECT TO ALTUDA	3.00
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
ISC005	FLIGHT INSTRUMENT SCAN - F	
3L 02	MON VERTICAL SPEED INDIC	60.00
3A 10	MONITOR AIRSPEED INDIC	60.00
2K 15	MON EHSI DISPLAY	60.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
2J 42 030007	MON EADI ENGINE INSTRUMENT SCAN	60.00
7F 25	MON ENG NO 1 EPR IND	0.44
7F 50	MON ENG NO 2 EPR IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 10	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
ISC605	FLIGHT INSTRUMENT SCAN - F	
2K 15	MON EHSI DISPLAY	60.00
2J 42	MON EADI	60.00
3L 02	MON VERTICAL SPEED INDIC	60.00
5A 10	MONITOR AIRSPEED INDIC	60.00
LANT11	RECEIVE INST TO FLY DIRECT TO GATE	
1PLANT23	MSG- UNITED76 FLY DIRECT TO APPROACH GATE	3.50
1PLANT24	COM- UNITED76 ROGER DIRECT TO GATE	3.00



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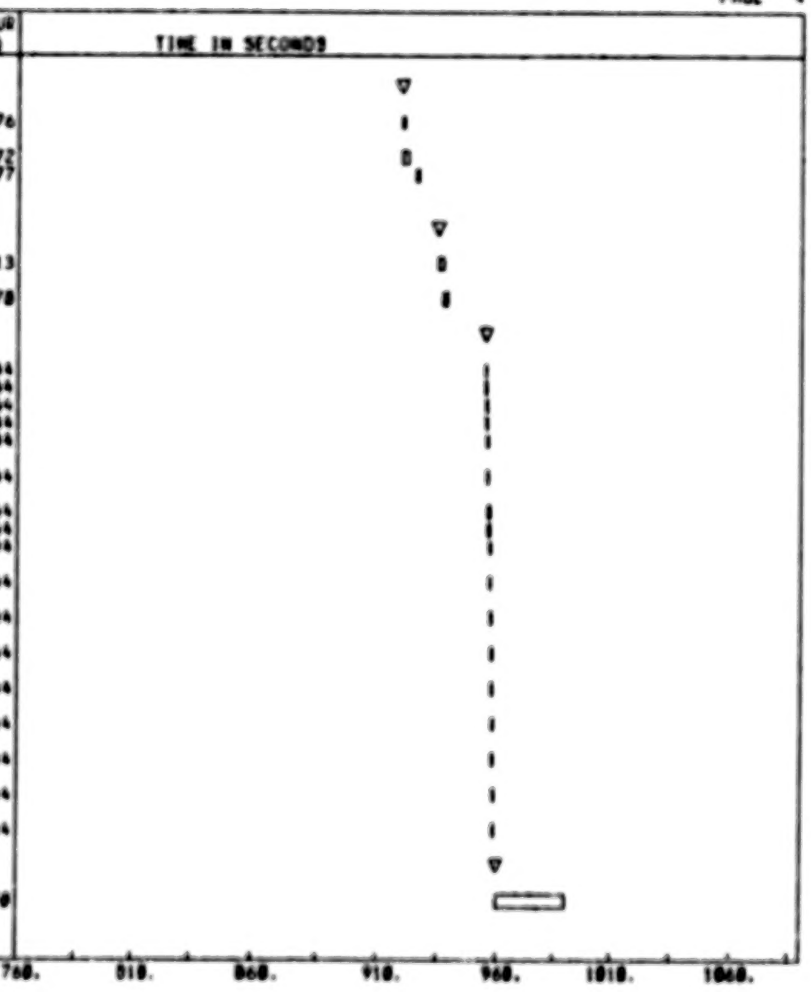
CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
ALTZCH	ALTITUDE CHANGE PROC FOR 2D FLIGHT PATH	
3K 04	MON ALT ALERT BARO SET INDIC	0.76
3K 03	SET ALT ALERT BARO	2.72
ZH 22	MONITOR FPA SEL MODE LT GREEN - FPA SEL MODE ENGAGED	0.77
140023	REPORT 1000 FT TO LEVEL OFF	
3H 02	MON COMD BARO ALT INDIC	2.13
1P140045	CALL OUT -1000 FEET TO LEVEL OFF	1.78
030007	ENGINE INSTRUMENT SCAN	
7F 30	MON ENG NO 2 EPR IND	0.44
7F 20	MON ENG NO 1 EPR IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44
7F 28	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
ISC505	FLIGHT INSTRUMENT SCAN - E	
ZJ 42	MON ERDI	30.00



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
3L 02	MON VERTICAL SPEED INDIC	30.00
3A 10	MONITOR AIRSPEED INDIC	30.00
2K 14	MON EHSI DISPLAY	30.00
ALTCPT	PILOT MONITORS EADI-EHSI SYMBOLS FOR ALTITUDE CAPTURE	
050007	ENGINE INSTRUMENT SCAN	
7F 30	MON ENG NO 2 EPR IND	0.44
7F 25	MON ENG NO 1 EPR IND	0.44
7F 22	MON NO 2 ENG N1 IND	0.44
7F 21	MON NO 1 ENG N1 IND	0.44
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44
7F 24	MON NO 2 ENG N2 IND	0.44
7F 23	MON NO 1 ENG N2 IND	0.44
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44

TIME IN SECONDS

760. 810. 860. 910. 960. 1010. 1060.

228

UNSHIFTED

MISSION TIMELINE
MISSION - DENVER LANT2D APP/LN
WITH HOLDING PTTN -
CONFIGURATION - AFD SIM DATA
FLIGHT PHASE -FINAL APP TO LANDING
FOR LONGMONT

CREWMEMBER - COPILOT

OCT 19, 1978

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
LANT56	U 76 CROSSES GATE SETS FLAPS TO 25 SLOWS TO APRCH SPD		▽
LANT12	RECEIVE INST TO SLOW TO APRCH SPEED AND CALL TOWER AT O.M.		▽
1PLANT25	MSG- UNITED76 REDUCE TO APPROACH SPEED CONTACT TWR AT O.M. ON120.0	5.50	□
030007	ENGINE INSTRUMENT SCAN		▽
7F 25	MON ENG NO 1 EPR IND	0.44	I
7F 30	MON ENG NO 2 EPR IND	0.44	I
7F 22	MON NO 2 ENG N1 IND	0.44	I
7F 21	MON NO 1 ENG N1 IND	0.44	I
7F 32	MON ENG NO 2 EXH GAS TEMP IND	0.44	I
7F 31	MON ENG NO 1 EXH GAS TEMP IND	0.44	I
7F 24	MON NO 2 ENG N2 IND	0.44	I
7F 23	MON NO 1 ENG N2 IND	0.44	I
7F 34	MON ENG NO 2 FUEL FLOW INDIC	0.44	I
7F 33	MON ENG NO 1 FUEL FLOW INDIC	0.44	I
7F 09	MON NO 1 ENG OIL PRESS INDIC	0.44	I
7F 18	MON NO 2 ENG OIL TEMP INDIC	0.44	I
7F 10	MON NO 1 ENG OIL TEMP INDIC	0.44	I
7F 19	MON NO 2 ENG OIL QTY INDIC	0.44	I
7F 11	MON NO 1 ENG OIL QTY INDIC	0.44	I

998. 1048. 1098. 1148. 1198. 1248. 1298.

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME IN SECONDS
1PLANT26	CON- UNITED76 ROGER SLOW TO APPROACH SPD CONTACT TOWER 120.8 AT O.M.	5.50	
7F 20	MON NO 2 ENG VIBR AMPLITUDE INDIC	0.44	
7F 12	MON NO 1 ENG VIBRATION AMPLITUDE INDIC	0.44	
180860	EXTEND LANDING GEAR		
ISC105	FLIGHT INSTRUMENT SCAN - B		
3A 10	MONITOR AIRSPEED INDIC	10.00	
2K 14	MON EHSI DISPLAY	10.00	
4D 03	SET LANDING GEAR LEVER TO DOWN POSITION	3.27	
2J 42	MON EADI	10.00	
3L 02	MON VERTICAL SPEED INDIC	10.00	
4D 05	MONITOR NOSE GEAR DOWN AND LOCKED LT ON	0.54	
4D 09	MONITOR LEFT/RT GEAR DOWN AND LOCKED LT ON	0.54	
180853	SET FLAPS TO FLAPS 25		
180818	FLAP SET PROCEDURE		
1P 10	MON VERBAL REPORT	0.70	
4E 12	SET FLAP CONT LEVER TO FLAPS 25	2.90	
4E 15	MONITOR FLAP POSITION INDICATOR	2.23	
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17	
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50	
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17	
1P180870 LNDCLR	CALL OUT -[FLAPS 25] CONTACT TOWER FOR FINAL LANDING CLEARANCE	0.70	
1B 05	SET VHF-2 COMM TFR SW TO LEFT	2.39	

990. 1040. 1090. 1140. 1190. 1240. 1290.

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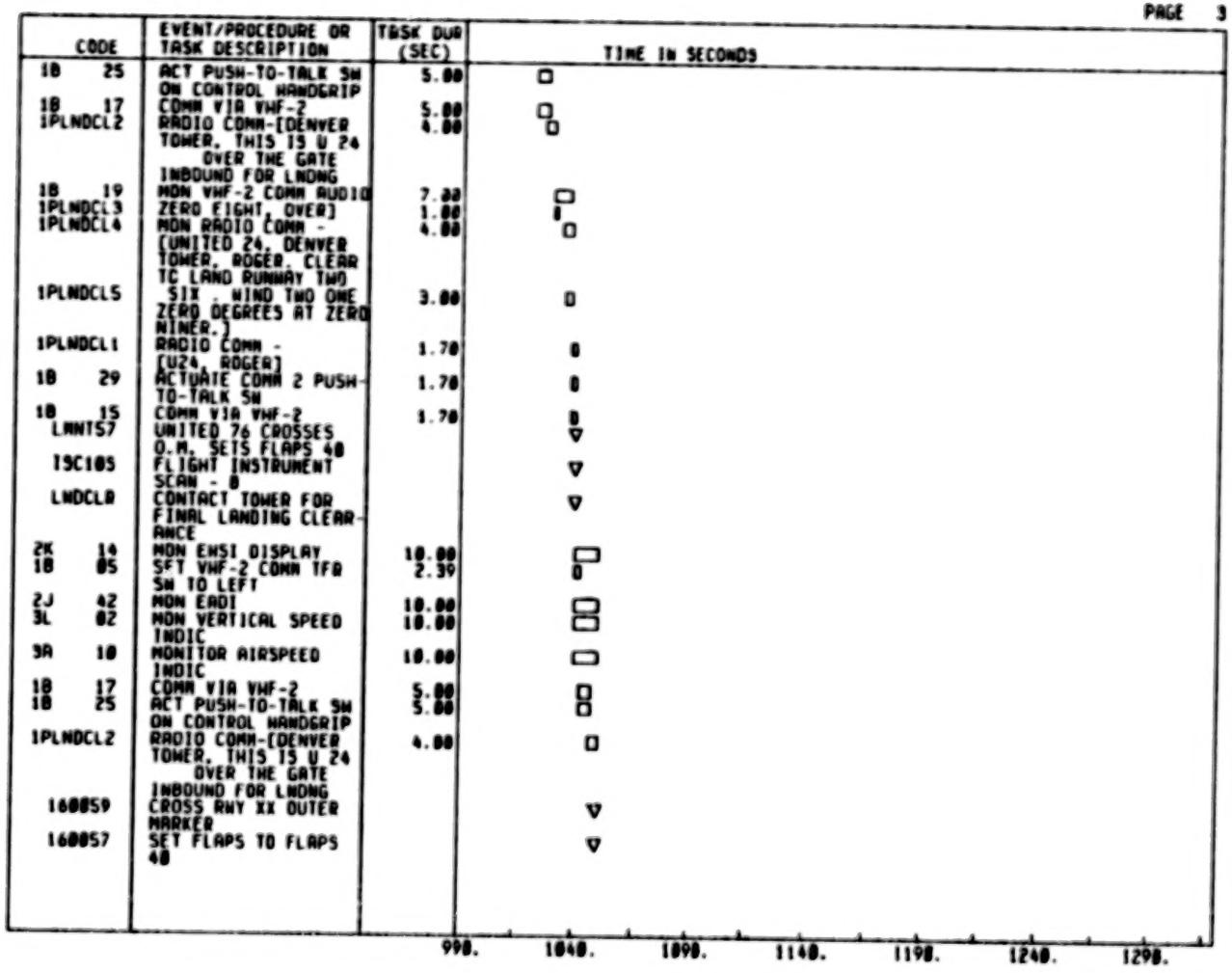
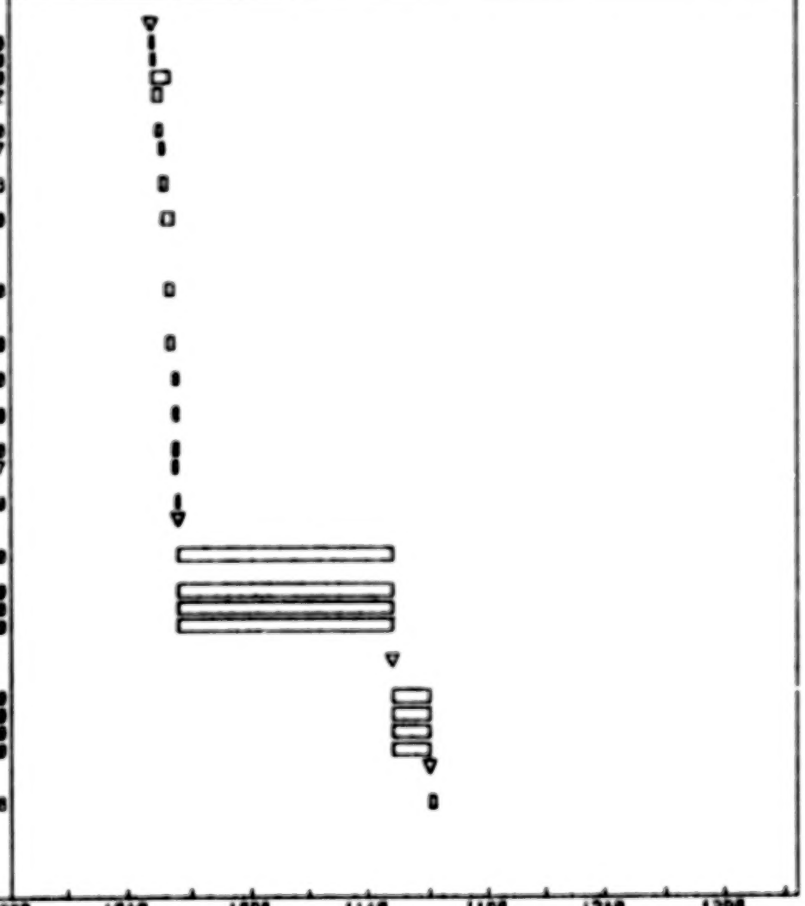
230

CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
1B 25	ACT PUSH-TO-TALK SW ON CONTROL HANDGRIP	5.00
1B 17	COMM VIA VHF-2	5.00
1PLNDCL2	RADIO COMM-[DENVER TOWER, THIS IS U 24 OVER THE GATE INBOUND FOR LNDNG	4.00
1B 19	MON VHF-2 COMM AUDIO	7.00
1PLNDCL3	ZERO EIGHT, OVER]	1.00
1PLNDCL4	MON RADIO COMM - (UNITED 24, DENVER TOWER, ROGER, CLEAR TO LAND RUNWAY TWO SIX , WIND TWO ONE ZERO DEGREES AT ZERO NINER.)	4.00
1PLNDCL5		3.00
1PLNDCL1	RADIO COMM - [U24, ROGER]	1.70
1B 29	ACTUATE COMM 2 PUSH-TO-TALK SW	1.70
1B 15	COMM VIA VHF-2	1.70
LANTS7	UNITED 76 CROSSES O.M, SETS FLAPS 40	
I9C105	FLIGHT INSTRUMENT SCAN - 0	
LNDCLR	CONTACT TOWER FOR FINAL LANDING CLEARANCE	
2K 14	MON EWSI DISPLAY	10.00
1B 05	SFT VHF-2 COMM TFR SW TO LEFT	2.39
2J 42	MON EADI	10.00
3L 02	MON VERTICAL SPEED INDIC	10.00
3A 10	MONITOR AIRSPEED INDIC	10.00
1B 17	COMM VIA VHF-2	5.00
1B 25	ACT PUSH-TO-TALK SW ON CONTROL HANDGRIP	5.00
1PLNDCL2	RADIO COMM-[DENVER TOWER, THIS IS U 24 OVER THE GATE INBOUND FOR LNDNG	4.00
160859	CROSS RWY XX OUTER MARKER	
160857	SET FLAPS TO FLAPS 40	



CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)
160818	FLAP SET PROCEDURE	
1P 10	MON VERBAL REPORT	0.70
1PLNDCL5	ZERO EIGHT, OVER)	1.00
1B 19	MON VHF-2 COMM AUDIO	7.00
4E 14	SET FLAP CONT LEVER TO FLAPS 40	2.92
1P 13	MON VERBAL REPORT	1.00
4N 03	MON LE FLAPS-IN-TRANSIT LT ON	1.17
4E 15	MONITOR FLAP POSITION INDICATOR	2.23
1PLNDCL4	MON RADIO COMM - (UNITED 24, DENVER TOWER, ROGER, CLEAR TO LAND RUNWAY TWO SIX , WIND TWO ONE ZERO DEGREES AT ZERO NINER.)	4.00
1PLNDCL5		3.00
4E 16	CHECK FLAP LEVER AND POSITION INDIC AGREE	2.50
1PLNDCL1	RADIO COMM - (U24 ROGER)	1.70
1B 29	ACTUATE COMM 2 PUSH-TO-TALK SW	1.70
1B 15	COMM V\A VHF-2	1.70
4N 04	MON LE FLAPS-IN-TRANSIT LT OFF	1.17
1P160873	CALL OUT -(FLAPS 40)	0.70
ISC905	FLIGHT INSTRUMENT SCAN - G	
3A 11	MONITOR AIRSPEED INDIC	90.00
2K 15	MON EHSI DISPLAY	90.00
2J 43	MON EADI	90.00
3L 03	MON VERTICAL SPEED INDIC	90.00
ISC155	FLIGHT INSTRUMENT SCAN - C	
2K 16	MON EHSI DISPLAY	15.00
2J 43	MON EADI	15.00
3L 04	MON IVSI INDIC	15.00
3A 14	MON AIRSPEED INDIC	15.00
160865	DESCEND THRU -DECISION HEIGTH	
3B 12	MON DECISION HGT LT ON FDI	2.58



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CODE	EVENT/PROCEDURE OR TASK DESCRIPTION	TASK DUR (SEC)	TIME in SECONDS
IP16000J	CALL OUT -(DECISION HEIGHT)	0.00	1

3.0 METERING AND SPACING SCENARIO DATA FILE

The data file consists of four parts: a Phase Library, an Event/Procedure Library, a Task Library and a Subsystem Library. The modular construction allows for ease of file maintenance and modification. It also avoids the need to duplicate data as single tasks may be used in several procedures and individual procedures may be used in many phases.

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2.2	Byers 2D Approach	
	Workload Histogram (WLH)	
	Total Vision	51 2/B1 75 2/E7
	Total Motor	52 2/B3 76 2/E9
	Cognition	53 2/B5 77 2/E11
	Total Communications	54 2/B7 78 2/E13
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SECTION NO.	TITLE	PAGE Pilot		PAGE Copilot	
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	Cruise	60	2/C5	84	2/F11
	Descent	63	2/C11	87	2/G3
	Metering and Spacing	67	2/D5	91	2/G11
	Final Approach/Landing	71	2/D13	94	3/A7
2.3	Longmont Manual Approach				
	Workload Histogram (WLH)				
	Total Vision	98	3/B1	128	3/F5
	Total Motor	99	3/B3	129	3/F7
	Cognition	100	3/B5	130	3/F9
	Total Communications	101	3/B7	131	3/F11
	Weighted Channel Average	102	3/B9	132	3/F13
	Workload Summaries (WLS)				
	Cruise	103	3/B11	133	3/G1
	Holding Pattern	104	3/B13	134	3/G3
	Descent to 11,000	105	3/C1	135	3/G5
	Descent to 8000	106	3/C3	136	3/G7
	Metering and Spacing	107	3/C5	137	3/G9
	Final Approach/Landing	108	3/C7	138	3/G11
	Mission Timeline (MTL)				
	Cruise	109	3/C9	139	3/G13
	Holding Pattern	114	3/D5	145	4/B1
	Descent to 11,000	116	3/D9	148	4/B7

SECTION NO.	TITLE	PAGE Pilot	PAGE Copilot
	Descent to 8000	1163/D13	151 4/B13
	Metering and Spacing	1213/E5	155 4/C7
	Final Approach/Landing	1243/E11	160 4/D3
2.4	Longmont 2D Approach		
	Workload Histogram (WLH)		
	Total Vision	1654/D13	195 5/B7
	Total Motor	1904/E1	130 5/B9
	Cognition	1674/E3	197 5/B11
	Total Communications	1684/E5	198 5/B13
	Weighted Channel Average	1694/E7	199 5/C1
	Workload Summaries (WLS)		
	Cruise	1704/E9	200 5/C3
	Holding Pattern	1714/E11	201 5/C5
	Descent to 11,000	1724/E13	202 5/C7
	Descent to 8000	1734/F1	203 5/C9
	Metering and Spacing	1744/F3	204 5/C11
	Final Approach/Landing	1754/F5	205 5/C13
	Mission Timeline (MTL)		
	Cruise	1764/F7	206 5/D1
	Holding Pattern	1804/G1	213 5/E1
	Descent to 11,000	1824/G5	216 5/E7
	Descent to 8000	1844/G9	219 5/E13
	Metering and Spacing	1875/A5	223 5/F7
	Final Approach/Landing	1915/A13	228 5/G3

SECTION NO.	TITLE	PAGE	
		Pilot	Copilot
3.0	METERING AND SWAPPING DATA FILE	235 5/G13	
	Phase Library	246 6/A5	254 6/A5
	Event/Procedure Library	256 6/A9	264 6/A9
	Task Library	266 7/C1	273 7/C1
	Subsystem Library	285 9/D3	293 9/D3

BYRZ	BYERS APPROACH TO LANDING FROM ENROUTE CRUISE	BYRZ01	00	MCA60S	00	ISP60S	00	ISC120	00		
		140023	42	MCA05S	100	ISP05S	100	MCA10S	110		
		ISP10S	110	BYRZ50	120	ALTCUP	120	MCA10S	130		
		ISP10S	130	BYRZ51	140	BYRZ02	140	MCA05S	140		
		ISP05S	140	AFDALT	144	ALTCDN	145	BYRZ03	152		
		MCA10S	155	ISP05S	155	ISC60S	200	BYRZ52	200		
		BYRZ04	200								
		MCA10S	155	ISP10S	155	BYRZ04	200	BYRZ71	200		
		ALTCUP	205	AFDSPD	215	MCA05S	215	MCA60S	220		
		ISP60S	220	ISC30S	300	MCA05S	320	ISP05S	320		
		MCA15S	325	ISP15S	325	ISC10S	330				
WTKN	DESCENT FROM BYERS TO WATKINS INTER-SECTION	BYRZ53	00	AFDSPD	00	MCA30S	00	ISP30S	00		
		ISC20S	00	BYRZ54	10	ISC30S	20	MCA15S	30		
		ISP15S	30	160011	45						
		BYRZ61	55	BYRZ55	55	AFDALT	50	ALTCDN	55		
		RVUDAT	100	MCA120	105	ISP120	105	ISC90S	130		
		140023	225								
		ISC30S	300	MCA10S	305	ISP10S	305	MCA10S	315		
		ISP10S	315	BYRZ67	325	ALTCUP	325	ISC10S	330		
		MCA30S	335								
		ISP30S	335	170007	340	ISC10S	400	BYRZ70	405		
		BYRZ07	405	HDGCHG	405						
		ISC10S	410	AFDSPD	415	MCA05S	415	ISP05S	415		
GATE	COURSE DEVIATION FOR SPACING - WATKINS TO THE GATE	MCA20S	00	ISP20S	00	ISC10S	10	MCA05S	20		
		ISP05S	20								
		BYRZ63	25	160017	25	160018	25	MCA10S	25		
		ISP10S	25	MCA10S	35	ISP10S	35	160025	35		
		160018	35	BYRZ08	40	AFDALT	40	HDGCHG	45		
		ISC120	50	ALTCDN	55	MCA120	105	ISP120	105		
		ISC120	250	BYRZ69	305	ALTCUP	305				
		MCA60S	315	ISP60S	315	MCA60S	415	ISP60S	415		
		ISC30S	450	160045	455	MCA10S	515	ISP10S	515		
		ISC05S	520								
BFNL	FINAL APPROACH TO FROM THE GATE THRU TOUCHDOWN	BYRZ58	00	160060	00	AFDSPD	10	MCA30S	10		
		ISP30S	10	160053	10	160018	10	ISC10S	25		
		160059	30	LNDCLR	30	ISC10S	35	160057	40		
		160018	40	FNLAP6	40	160062	50				
		160018	100	ISC90S	115	FNLAP6	140	160065	220		
		MCALND	240	ISC10S	245	ISC10S	255				
LMNT	LONGMONT APPROACH TO LANDING WITH HOLDING PATTERN	LMNT01	00	MCA30S	00	ISP30S	00	140023	00		
		ISC20S	10	LMNT02	24	MCA10S	30	ISP10S	30		
		030007	30	LMNT03	35	ALTCUP	40	ISC20S	40		
		LMNT50	45								
		MCA60S	50	ISP60S	50	030007	100	ISC30S	110		
		ISC20S	140	MCA30S	150						
		ISP30S	150	030007	200			ISC60S	210		
		LMNT04	220								
		ALTCDN	220	MCA30S	230	ISP30S	230	MCA10S	300		
		ISP10S	300	ALTCUP	310	ISC10S	310	MCA60S	320		
		ISP60S	320	030007	320	ISC30S	330				
		LMNT05	350								
		AFDSPD	350	ISC20S	400	MCA05S	420	ISP05S	420		
		LMNT06	425	LMNLDG	425	MCA10S	425	ISP10S	425		
		MCA10S	435	ISP10S	435						
HPTN	HOLDING PATTERN FOR LONGMONT APP BETWEEN MEEKER AND LONGMNT	LMNT51	00	HLDPTN	00	030007	10	ISC60S	15		
		030007	115	ISC60S	120	030007	220	ISC30S	225		
		ISC05S	255								
BRTN	AIRCRAFT DEPARTS HLD DESCENDING TO 11000	LMNT52	00	LMNT07	00	AFDSPD	5	030007	10		
		MCA10S	00	ISP10S	00						
		ISC30S	15	ALTCDN	20	MCA90S	30	ISP90S	30		

		030007	45	ISC20S	50	ISC60S	110	MCA10S	200		
		ISP10S	200								
NRTH	AIRCRAFT DESCENDS	LMNT53	00	LMNT08	00	ALTCUP	02	ISC15S	02		
	TO 8000 AND SLOWS	AFDSPD	07	MCA30S	12	ISP30S	12	160011	17		
	TO 170 KTS	ISC15S	27								
		160017	42	160018	42	MCA10S	42	ISP10S	42		
		ISC10S	52								
		ALTCDN	52	LMNT54	57	160025	102	160018	102		
		MCA90S	102	ISP90S	102	030007	112	ISC30S	117		
		ISC10S	147	LMNT09	157	ISC30S	202				
		ALTCUP	232	ISC20S	232	MCA10S	242	ISP10S	242		
MTRS	NORTH 1 METERING AND	LMNT55	00	HDGCHG	00	030007	00	ISC60S	05		
	SPACING AREA	MCA60S	10	ISP60S	10	LMNT10	105	030007	105		
		HDGCHG	110	ISC60S	110	MCA60S	120	ISP60S	120		
		030007	210	ISC60S	215	MCA10S	220	ISP10S	220		
		LMNT11	225	HDGCHG	230	AFDALT	235	ALTCDN	240		
		MCA60S	250	ISP60S	250	140023	255	030007	315		
		ISC30S	320	ALTCUP	350	030007	350				
LFNL	FINAL APP TO LANDING	LMNT56	00	LMNT12	00	030007	02	AFDSPD	07		
	FOR LONGMONT	160060	07	ISC10S	07						
		MCA30S	07	ISP30S	07	160053	17	160018	17		
		030007	27	ISC20S	37	MCA10S	37	ISP10S	37		
		LMNT57	47	LNDCLR	47	MCA10S	47	ISP10S	47		
		180031	57	160057	57	160018	57	FNLAP6	57		
		ISC90S	107	FNLAP3	157	160065	227	ISC10S	237		
		MCALND	227								
BYR2	BYERS APPROACH TO	BYRZ01	00		00	ISP60S	00	ISC120	00		
	LANDING FROM ENROUTE	140023	42	ISP20S	100	ISP20S	120				
	CRUISE			BYRZ50	120	ALTCPT	120				
				BYRZ51	140	BYRZ02	140				
		ISP05S	140			ALT2CH	145	BYRZ03	152		
				ISP05S	155	ISC60S	200	BYRZ52	200		
				BYRZ71	200	BYRZ04	200	AFDALT	200		
		ALTCPT	205	AFDSPD	215		215		220		
		ISP60S	220	ISC30S	300		320	ISP05S	320		
				ISP15S	325	ISC10S	330				
WTK2	DESCENT FROM BYERS	BYRZ53	00	AFDSPD	00		00	ISP30S	00		
	TO WATKINS INTER-	ISC20S	00	BYRZ54	10	ISC30S	20		30		
	SECTION	ISP15S	30	160011	45						
		BYRZ61	55	BYRZ55	55			ALT2CH	55		
		RVUDAT	100		105	ISP120	105	ISC90S	130		
		140023	225								
		ISC30S	300		305	ISP10S	305		315		
		ISP10S	315	BYRZ67	325	ALTCPT	325	ISC10S	330		
			335								
		ISP30S	335	170007	340	ISC10S	400	BYRZ70	405		
		BYRZ07	405	TKACHG	405						
		ISC10S	410	AFDSPD	412		415	ISP05S	415		
GTE2	COURSE DEVIATION FOR		00	ISP20S	00	ISC10S	10		20		
		ISP05S	20								
	SPACING - WATKINS TO	BYRZ63	25	160017	25	160018	25		25		
	THE GATE	ISP10S	25		35	ISP10S	35	160025	35		
		160018	35	BYRZ08	43			TKACHG	45		
		ISC120	50	ALT2CH	55		105	ISP120	105		
		ISC120	250	BYRZ69	305	ALTCPT	305				
			315	ISP60S	315		415	ISP60S	415		
		ISC10S	450	160045	455		515	ISP10S	515		
		ISC05S	520								
BFN2	FINAL APPROACH TO	BYRZ58	00	160060	00	LNDARM	00	AFDSPD	10		
	FROM THE GATE THRU	ISP30S	10	160053	10	160018	10	LNDCLR	10		

	TOUCHDOWN	ISC10S	25	160059	30	ISC10S	35	160057	40
		160018	40	ATOLN6	40	160062	50		
		160018	100	ISC90S	115	ATOLN6	140	160065	220
		ATOLND	240	ISC10S	245	ISC10S	255		
LMT2	LONGMONT APPROACH TO	LMNT01	00		00	ISP30S	00	140023	00
	LANDING WITH HOLDING	ISC20S	10	LMNT02	24		30	ISP20S	30
	PATTERN	030007	30	LMNT03	35			ISC20S	40
		ALTCPT	40	LMNT50	45				
				ISP60S	50	030007	100	ISC30S	110
		ISC20S	140		150				
		ISP30S	150	030007	200			ISC60S	210
		LMNT04	220						
		ALT2CH	220		230	ISP30S	230		300
		ISP20S	300	ALTCPT	310	ISC10S	310		320
		ISP60S	320	030007	320	ISC30S	330		
		LMNT05	350						
		AFDSPD	350	ISC20S	400		420	ISP05S	420
		LMNT06	425	AFDSPD	425	LMHLDG	425	ISP05S	430
			435	ISP10S	435				
HPT2	HOLDING PATTERN FOR	LMNT51	00	HLDPTN	00	030007	10	ISC60S	15
	LONGMONT APP BETWEEN	030007	115	ISC60S	120	030007	220	ISC30S	225
	MEEKER AND LONGMNT	ISC05S	255						
BTN2	AIRCRAFT DEPARTS HLD	LMNT52	00	LMNT07	00	AFDSPD	00	ISP15S	05
	DESCENDING TO 11000	030007	10	ISC30S	15	LMNT58	20	ALT2CH	20
		ISP90S	30	030007	45	ISC20S	50	ISC60S	110
		ISP10S	200						
NRT2	AIRCRAFT DESCENDS	LMNT08	00	LMNT53	00	ALTCPT	02	ISC15S	02
	TO 8000 AND SLOWS	AFDALT	02	AFDSPD	05	ISP05S	07	ISP30S	12
	TO 170 KTS	160011	17	ISC15S	27				
		160017	42	160018	42		42	ISP10S	42
		ISC10S	52						
		ALT2CH	52	LMNT54	57	160025	102	160018	102
			102	ISP90S	102	030007	112	ISC30S	117
		ISC10S	147	LMNT09	157	ISC30S	202		
		ALTCPT	232	ISP20S	232	ISC20S	232		
MTR2	NORTH 1 METERING AND	LMNT55	00	TKACHG	00	030007	00	ISC60S	05
	SPACING AREA		10	ISP60S	10	LMNT10	105	030007	105
		TKACHG	110	ISC60S	110		120	ISP60S	120
		030007	210	ISC60S	215		220	ISP10S	220
		LMNT11	225	TKACHG	230			ALT2CH	240
			250	ISP60S	250	140023	255	030007	315
		ISC30S	320	ALTCPT	350	030007	350		
LFN2	FINAL APP TO LANDING	LMNT12	00	LMNT56	00	LNDARM	00	030007	02
	FOR LONGMONT	ISP05S	05	160060	07	ISC10S	07		
			07	ISP30S	07	160053	17	160018	17
		LNDCLR	27	ISP10S	37	ISC10S	47		
		LMNT57	47	LNDCLR	47		47	ISP10S	47
		160059	57	160057	57	160018	57	ATOLN6	57
		ISC90S	107	ATOLN3	157	160065	252	ATOLND	227
		ISC15S	237						

EVENT/PROCEDURE								
AFDALT ALTITUDE CHANGE PROC	2H	33	0	10 P1	2H	34	1.40	10 P1
AFDSPD AIRSPEED CHANGE PROC	2H	47	0	10 P1	2H	48	1.40	10 P1
ALT2CH ALTAITUDE CHANGE PROC	2H	33	0	P1	2H	31	0	P1
FOR 2D FLIGHT PATH	3K	03	0	CP1	3K	04	0	CP1
	2H	34	1.0	P1	2H	28	2.06	P1
	2H	30	2.5	P1	2H	26	3.48	P1
	2K	32	4.5	P1	2H	21	5.93	P1
	2H	22	5.93	CP1	3A	01	6.81	P1
	3L	05	7.41	P1	3H	02	8.01	P1

ALTCPT	PILOT MONITORS EADI-ESHI SYMBOLS FOR ALTITUDE CAPTURE											
ALTCDN	ACTUATE VCWS TO START DESCENT	4F	03		0	10	P3	4A	64		0	10 P2
		3H	06		0	10	P2	3L	02		0	10 P1
		3A	10		0	10	P1	2K	32		0	10 P2
ALTCUP	ACTUATE VCWS TO END DESCENT	4F	01		0	10	P3	4A	64		0	10 P2
		3H	06		0	10	P2	3L	02		0	10 P1
		3A	10		0	10	P1	2K	32		0	10 P2
ATOLN3	MONITOR A/C ON FINAL							2J	04		0	10 P2
	APPROACH - PILOT (30 SEC)	2J	05		0	10	P3	2J	38		0	10 P3
		2J	39		0	10	P3	2J	30		0	10 P2
		2J	40		0	10	P2	3A	10		0	10 P3
		3H	06		0	10	P3	3L	02		0	10 P3
ATOLN6	MONITOR A/C ON FINAL							2J	04		0	10 P4
	APPROACH - PILOT (60 SEC)	2J	09		0	10	P2	2J	38		0	10 P4
		2J	39		0	10	P4	2J	30		0	10 P3
		2J	40		0	10	P3	3A	10		0	10 P4
		3H	06		0	10	P4	3L	02		0	10 P4
ATOLND	MONITOR AIRCRAFT ON FINAL APP	2J	44		0	10	P1	2J	09		0	10 P3
		2J	24		10	10	P1	2J	41		15	10 P1
		4B	08		21	10	P1	3V	28		21	10 P1
BYRZ01	START OF FLIGHT SCENARIO MESSAGE	1PBYRZ01			0.0		*1	1PBYRZ02			5.0	CP1
		1PBYRZ03			6.5		*1	1PBYRZ04			11.5	CP1
BYRZ02	RECEIVE CLEARANCE TO 12000	1PBYRZ05			0.0		*1	1PBYRZ06			3.5	CP1
BYRZ03	RECEIVG CLEARANCE TO 11000	1PBYRZ07			0.0		*1	1PBYRZ08			3.5	CP1
BYRZ04	RECEIVG SPEED REDUCTION TO 250 KTS	1PBYRZ09			0.0		*1	1PBYRZ10			3.0	CP1
BYRZ05	RECEIVE SPEED REDUCTION TO 200 KTS	1PBYRZ11			0.0		*1	1PBYRZ12			3.0	CP1
BYRZ06	CONTACT DENVER LCL ON 118.3	1PBYRZ13			0.0		*1	1R	07		5.0	CP3
		1R	08		5.0		CP4	1R	09		7.9	CP2
		1PBYRZ14					CP1	1PBYRZ15			9.9	CP1
BYRZ07	RECEIVE METER/SPACE INSTRUCTIONS	1PBYRZ16			0.0		*1	1PBYRZ17			6.0	CP1
BYRZ08	RECEIVE INSTRUCTIONS TO PROCEED DIRECT TO THE GATE	1PBYRZ18			0.0		*1	1PBYRZ19			6.0	CP1
BYRZ50	UAL 24 REACHES 13000											
BYRZ51	U 24 CLEARED FOR DESCENT											
BYRZ52	U 24 SPEED REDUCTION TO 250 KTS											
BYRZ53	U 24 SPEED REDUCTION TO 200 KTS											
BYRZ54	U 24 CROSSES BYERS INTERSECTION @ 11000											
BYRZ55	U 24 BEGINS STAR DESCENT TO 8000											
BYRZ56	U 24 DESCENDS TO 7000											
BYRZ57	U 24 DESCENDS TO 6500											
BYRZ58	U 24 CROSSES GATE AT 6500 AND 150 KTS, SLOWS TO 120KTS, FLAPS ON SCHED											
BYRZ60	U 24 REACH 250 KTS											

BYRZ61	U 24 REACHS 200 KTS											
BYRZ62	SET FLAPS TO POS 1											
BYRZ63	SET FLAPS TO POS 5											
BYRZ64	SET FLAPS TO POS 15											
BYRZ65	SET FLAPS TO POS 25											
BYRZ66	CROSS O.M. CALL FOR LANDING CLEARANCE, SET FLAPS 40											
BYRZ67	U 24 REACHES 8000											
BYRZ68	U 24 REACHES 7000											
BYRZ69	U 24 REACHES 6500											
BYRZ70	U 24 CROSS WATKINS @ 200 KTS & 8000, RECEIVE METER/SPACING INSTRUCTIONS											
BYRZ71	U 24 ENDS DESCENT FOR SPEED REDUCTION											
FNLAP3	CONTROL A/C ON FINAL APPROACH - PILOT (30 SEC)	4A	64		0	10	P4 2J	04		0	10	P2
		2J	05		0	10	P3 2J	38		0	10	P3
		2J	39		0	10	P3 2J	30		0	10	P2
		2J	40		0	10	P2 3A	10		0	10	P3
		3H	06		0	10	P3 3L	02		0	10	P3
FNLAP6	CONTROL A/C ON FINAL APPROACH - PILOT (60 SEC)	4A	65		0	10	P1 2J	04		0	10	P4
		2J	09		0	10	P2 2J	38		0	10	P4
		2J	39		0	10	P4 2J	30		0	10	P3
		2J	40		0	10	P3 3A	10		0	10	P4
		3H	06		0	10	P4 3L	02		0	10	P4
HDGCHG	HEADING CHANGE PROC. -CWS	4A	28		0	10	P2 2K	14		0	10	P2
		2K	33		0	10	P1 3L	02		0	10	P1
HLDPTN	HOLDING PATTERN PROC -RIGHT TURNS -1 1/2 MIN. LEGS -FOR METERING AND SPACING	3S	20		0	10	P2 4A	66		0	10	P3
		2K	33		0	10	P4 3A	10		0	10	P4
		3L	03		0	10	P4 3H	06		0	10	P4
		4A	64	1	00	10	P4 2K	14	1	00	10	P3
		2K	46	1	00	10	P2 3H	06	1	00	10	P3
		3A	10	1	00	10	P3 3L	02	1	00	10	P3
		4A	66	1	30	10	P3 2K	15	1	30	10	P2
		2K	33	1	30	10	P4 3A	10	1	30	10	P4
		3L	03	1	30	10	P4 3H	06	1	30	10	P4
		4A	64	2	30		P4 2K	14	2	30		P3
		2K	46	2	30		P2 3H	06	2	30		P3
		3A	10	2	30		P3 3L	02	2	30		P3
LNDARM	PILOT ARMS AUTOLAND FEATURE ON CMP	2K	17		0		P1 2H	36		1.0		P2
		2H	35		1.5		P3 2H	38		3.2		P1
		2H	13		4.0		P1 2H	10		4.0		P1
		2H	11		5.0							
LNDCLR	CONTACT TOWER FOR FINAL LANDING CLEARANCE	1B	05		0	10	CP4 1B	25		2.4	10	CP1
		1B	17		2.4	10	CP2 1PLNDCL2			6.4	10	CP1
		1B	19		10.4	10	*2 1PLNDCL3			10.4	10	CP1
		1PLNDCL4			14.4	10	*1					
		1PLNDCL5			15.4	10	*1 1B	29		18.4	10	CP1
		1B	15		18.4	10	CP4 1PLNDCL1			18.4	10	CP1
LMHLDG	COPILOT SETS UP HLDG PATTERN FOR LONGMONT INTERSECTION	2L	07		0.0		CP1 2L	19		2.67		CP2
		2L	26		4.73		CP3 2L	19		6.08		CP2
		2L	48		8.14		CP1 2L	51		9.49		CP1
		2L	50		10.84		CP2 2L	43		12.19		CP1
		2L	49		13.54		CP2 2L	51		14.89		CP1
		2L	19		18.94		CP2 2L	23		21.00		CP2
		2L	50		16.24		CP2 2L	56		17.59		CP1
		2L	21		22.35		CP2					
LMNT01	START OF FLIGHT COM	1PLMNT01			0.0		*1 1PLMNT02			4.5		CP1

		1R	07	7.5	CP1	1R	08	7.5	CP1
		1R	09	9.4	CP1	1PLMNT03		12.4	CP1
		1PLMNT04		15.4	CP1	1PLMNT05		20.4	CP1
LMNT02	DESCENT INSTRUCTIONS TO 15000	1PLMNT06		0.0	*1	1PLMNT07		3.0	CP1
LMNT03	RECEIVE HOLDING PTN INSTRUCTIONS	1PLMNT08		0.0	*1	1PLMNT09		5.0	CP1
LMNT04	DESCENT INSTRUCTIONS TO 14000	1PLMNT10		0.0	*1	1PLMNT11		3.0	CP1
LMNT05	RECEIVE SPEED REDUCTION TO 250 INST	1PLMNT12		0.0	*1	1PBYRZ10		3.0	CP1
LMNT06	RECEIVE HOLDING PTN INSTRUCTIONS	1PLMNT13		0.0	*1	1PLMNT14		5.5	CP1
LMNT07	RECEIVE DESCENT INST AND SPEED INCREASE	1PLMNT15		0.0	*1	1PLMNT16		4.5	CP1
LMNT08	RECEIVE SPEED REDUCTION INSTRUCTIONS-170	1PLMNT17		0.0	*1	1PLMNT18		3.0	CP1
LMNT09	CONTACT DENVER LCL CONTROL 118.3	1PLMNT19		0.0	*1	1PLMNT20		3.5	CP1
		1R	07	7.0	CP1	1R	08	7.0	CP1
		1R	09	9.9	CP1	1PLMNT03		12.8	CP1
LMNT10	RECEIVE INST TO FLY DIRECT ALTURA	1PLMNT21		0.0	*1	1PLMNT22		3.0	CP1
LMNT11	RECEIVE INST TO FLY DIRECT TO GATE	1PLMNT23		0.0	*1	1PLMNT24		3.5	CP1
LMNT12	RECEIVE INST TO SLOW TO APRCH SPEED AND CALL TOWER AT O.M.	1PLMNT25		0.0	*1	1PLMNT26		5.5	CP1
LMNT50	UNITED 76 REACHES 15000 AND LEVELS OFF								
LMNT51	UNITED 76 CROSSES LONGMONT INTSCTN AND ENTERS HLDG PTN AT 210KTS								
LMNT52	UNITED 76 DEPARTS HLDG PTN CONTINUING FLIGHT PATH								
LMNT53	UNITED 76 CROSSES BRIGHTON INTSCTN @ 11000, LEVELS OFF AND SLOWS TO 170								
LMNT54	UNITED 76 REACHES 170KTS AND RESUMES DESCENT TO 8000								
LMNT55	UNITED 76 CROSSES NORTH1 INTSCTN @ 170 170KTS AND 8000								
LMNT56	U 76 CROSSES GATE SETS FLAPS TO 25 SLOWS TO APRCH SPD								
LMNT57	UNITED 76 CROSSES O.M. SETS FLAPS 40								
LMNT58	PILOT SETS HLD PTN SPEED ON CAS INDIC								
MCA05S	CONTROL AIRCRAFT - A (5 SEC PROC)	4A	64	0	10 P3	4B	09	0	10 P1
ISP05S	FLIGHT INSTRUMENT SCAN - A	2J	42	0	10 P1	3L	02	0	10 P2
		3A	10	0	10 P2	2K	16	0	10 P2
ISC05S	FLIGHT INSTRUMENT SCAN - A	2J	42	0	10CP1	3L	02	0	10CP2
		3A	10	0	10CP2	2K	16	0	CP2
MCA10S	CONTROL AIRCRAFT - B	4A	64	0	10 P2	4B	09	0	10 P2

	(10 SEC PROC)										
ISP10S	FLIGHT INSTRUMENT	2J	42	0	10 P2 3L	02	0	10 P1
	SCAN - B	3A	10	0	10 P1 2K	14	0	10 P2
ISC10S	FLIGHT INSTRUMENT	2J	42	0	10CP2 3L	02	0	10CP1
	SCAN - B	3A	10	0	10CP1 2K	14	0	CP2
MCA15S	CONTROL AIRCRAFT - A	4A	31	0	10 P3 4B	09	0	10 P3
	(15 SEC PROC)										
ISP15S	FLIGHT INSTRUMENT	2J	43	0	10 P3 3L	04	0	10 P4
	SCAN - C	3A	14	0	10 P3 2K	16	0	10 P3
ISC15S	FLIGHT INSTRUMENT	2J	43	0	10CP3 3L	04	0	10CP4
	SCAN - C	3A	14	0	10CP3 2K	16	0	CP3
MCA20S	CONTROL AIRCRAFT - A	4A	31	0	10 P4 4B	09	0	10 P4
	(20 SEC PROC)										
ISP20S	FLIGHT INSTRUMENT	2J	43	0	10 P4 3L	04	0	10 P2
	SCAN - D	3A	14	0	10 P4 2K	16	0	10 P4
ISC20S	FLIGHT INSTRUMENT	2J	43	0	10CP4 3L	04	0	10CP2
	SCAN - D	3A	14	0	10CP4 2K	16	0	CP4
MCA30S	CONTROL AIRCRAFT - C	4A	64	0	10 P4 4B	10	0	10 P1
	(30 SEC PROC)										
ISP30S	FLIGHT INSTRUMENT	2J	42	0	10 P3 3L	02	0	10 P3
	SCAN - E	3A	10	0	10 P3 2K	14	0	10 P3
ISC30S	FLIGHT INSTRUMENT	2J	42	0	10CP3 3L	02	0	10CP3
	SCAN - E	3A	10	0	10CP3 2K	14	0	CP3
MCA60S	CONTROL AIRCRAFT - F	4A	65	0	10 P1 4B	10	0	10 P2
	(60 SEC PROC)										
ISP60S	FLIGHT INSTRUMENT	2J	42	0	10 P4 3L	02	0	10 P4
	SCAN - F	3A	10	0	10 P4 2K	15	0	10 P2
ISC60S	FLIGHT INSTRUMENT	2J	42	0	10CP4 3L	02	0	10CP4
	SCAN - F	3A	10	0	10CP4 2K	15	0	CP2
MCA90S	CONTROL AIRCRAFT - G	4A	65	0	10 P4 4B	10	0	10 P3
	(90 SEC PROC)										
ISP90S	FLIGHT INSTRUMENT	2J	43	0	10 P1 3L	03	0	10 P3
	SCAN - G	3A	11	0	10 P3 2K	15	0	10 P3
ISC90S	FLIGHT INSTRUMENT	2J	43	0	10CP1 3L	03	0	10CP3
	SCAN - G	3A	11	0	10CP3 2K	15	0	CP3
MCA120	CONTROL AIRCRAFT - H	4A	65	0	10 P3 4B	10	0	10 P4
	(120 SEC PROC)			10			10	
ISP120	FLIGHT INSTRUMENT	2J	43	0	10 P2 3L	03	0	10 P2
	SCAN - H	3A	11	0	10 P2 2K	15	0	10 P4
ISC120	FLIGHT INSTRUMENT	2J	43	0	10CP2 3L	03	0	10CP2
	SCAN - H	3A	11	0	10CP2 2K	15	0	CP4
MCALND	CONTROL AIRCRAFT	4A	79	0	10 P1 2J	09	0	10 P3
		2J	44	0	10 P1 2J	25	0	10 P2
		2J	24	10	10 P1 2J	41	15	10 P1
		4B	08	21	10 P1			
RVUDAT	CREWMEMBER REVIEWS	8B	06	0	10CP1	8B160003	6	10CP2
	CHARTS/APPROACH DATA	8B	07	25	10CP1			
	FOR NAV INFORMAT'N							
	THRU TOUCHDOWN							
TKACHG	HEADING CHANGE PROC	2H	19	0	P1 2K	47	.3	P2
	TO DEVIATE FROM 2D	2K	17	.3	P1 2H	17	2.5	P1
	FLIGHT PATH	2H	14	3.3	P1 2H	15	4.0	P2
		2H	38	4.0	P2 2K	59	4.8	P1
		3A	10	4.8	P2 3H	07	4.8	P1
		2J	42	5.0	P1 2K	16	5.0	P1
00XX01	MASTER CAUTION WARN	7A	24	0	10 *1 7A	25	.3	10 P1
	LIGHT PROCEDURE	7A	37	2.9	10 P1			10
00XX02	CHECKLIST RETRIEVAL	1PXXXX01		0	10 P1 1P	02	0	10CP1
	PROCEDURE	8B	02	1.5	10CP2 8B	05	7.4	10CP2
00XX03	CHECKLIST COMPLETE	1PXXXX02		0	10CP1 1P	06	0	10 P3

	PROCEDURE	1P	03	1	10 P1	8B	08	1.5	10CP1
00BA01	READ AND DO C/L FUEL	1P00BA01		0	10 P1	1P	07	0	10CP3
	HEAT VALVE FAILURE	1P00BA02		2.3	10CP1	1P	17	2.3	10 P4
		7F	09	4.3	10CP1	7F	10	4.3	10CP1
		1P00BA03		6.4	10CP1	1P	02	6.4	10 P1
00BB01	READ AND DO C/L MIN	1P00BB01		0	10 P1	1P	02	0	10CP1
	FUEL GO-AROUND	1P00BB02		1.5	10CP1	1P	02	1.5	10 P1
		1P00BB03		3	10CP1	1P	06	3	10CP3
		7C	24	4	10 P2	7C	26	6.4	10 P1
		7C	30	7.8	10 P2	7C	35	9.4	10 P2
		7C	38	10.8	10 P1	7C	42	12.2	10 P2
		1P00BB04		13.7	10 P1	1P	06	13.7	10CP3
		1P00BB05		14.7	10CP1	1P	02	14.7	10 P2
		7C	16	16.7	10 P2	1P00BB06		18.7	10 P1
		1P00BB07		19.2	10CP1	1P	07	19.2	10 P3
		1P00BB08		21.5	10 P1	1P	06	21.5	10CP1
00BC01	READ AND DO C/L FUEL	7C	47	0	10CP1	1P00BC01		1	10CP1
	FILTER ICING	1P	02	1	10 P1	1P00BC02		2.5	10 P1
		1P	06	2.5	10CP3	7C	18	3.5	10 P1
		7C	50	5.5	10 P2	7C	51	6.0	10 P2
		1PXXXX05		6.0	10 P1				10
		7F	09	7.7	10 P1	7F	10	7.7	10 P1
00BD01	MONITOR FUEL GAGES,	7C	11	0	10 P3	7C	09	0	10 P3
	IDENTIFY FUEL XFR	7C	10	0	10 P3	1P00BD01		3	10 P1
	PROBLEM	1P	04	3	10CP1				10
00BD02	READ AND DO C/L FUEL	1P00BD02		0	10CP1	1P	12	0	10 P1
	XFR PROBLEM	1P00BD03		2.5	10CP1	1P	14	2.5	10 P3
		7C	17	4.1	10 P2	7C	13	6.1	10 P1
		7C	31	6.7	10 P3	7C	35	9.1	10 P2
		1PXXXX04		10.4	10 P1	1P	11	10.4	10CP1
		1P00BD04		10.9	10CP1	1P	04	10.9	10 P2
		7C	24	13.1	10 P1	1PXXXX05		14.6	10 P1
		1P	11	14.6	10CP1	1P00BD05		15.1	10CP1
		1P	13	15.1	10 P2	1P00BD06		17.5	10 P1
		1P	12	17.5	10CP1	1P00BD07		20.1	10CP1
		1P	09	20.1	10 P1	7C	30	21.4	10 P1
		7C	34	23.0	10 P1	1PXXXX05		24.4	10 P1
		1P	11	24.4	10CP1	1P00BD08		24.9	10CP1
		1P	09	24.9	10 P2	1P00BD09		26.3	10 P1
		1P	14	26.3	10CP3				10
00CB01	READ AND DO C/L CSD	1P00CB01		0	10 P1	1P	02	0	10 P3
	LOW OIL PRESSURE LT	1P00CB02		3	10CP1	1P	02	3	10 P2
		7B	09	5	10 P2	7B	10	5	10 P2
		7B	11	6	10 P2	7B	12	6	10 P2
		7B	13	7	10 P2	1P00CB03		8	10 P1
		1P	11	8.5	10CP1	7L	13	9	10 P4
		7L	01	11.3	10 P1	7L	23	13.4	10 P1
		7B	24	14.3	10 P1	7B	44	14.9	10 P2
		7B	25	16.4	10 P1	7B	36	16.4	10 P1
		1P00CB05		17	10 P1	1P	04	17	10CP3
		7B	68	18.8	10 P2	7B	72	21	10 P1
		7B	63	23.6	10 P1				10
00CD01	READ AND DO C/L	1P00CD01		0	10CP1	1P	02	0	10 P2
	STDBY PWR OFF LT	1P00CD02		2	10CP1	1P	02	2	10 P1
		7B	18	3.5	10 P1	7B	15	4.7	10 P1
		7B	19	7.6	10 P2	1P00CD03		7.8	10 P1
		1P	11	7.8	10CP1				10
00CE01	READ AND DO C/L BUS	1P00CE01		0	10 P1	1P	02	0	10CP1
	OFF LT	1P00CE02		1.5	10CP1	1P	06	1.5	10 P3
		7B	28	2.5	10 P2	7B	38	2.5	10 P2

		7B	34	3.5	10 P1	7B	29	5.5	10 P1
		7B	39	6.1	10 P1	1P00CE03		6.6	10CP1
		1P	06	6.6	10 P1	1P00CE04		9.1	10 P1
		1P	04	9.1	10CP2				10
00CF01	READ AND DO C/L XFR BUS OFF LT	1P00CF01		0	10CP1	1P	02	0	10 P2
		1P00CF02		2	10CP1	1P	06	2	10 P1
		7B	26	4.5	10 P2	7B	23	5.5	10 P1
		7B	27	8.3	10 P2	1P00CF03		8.9	10 P1
		1P	06	8.9	10CP3				10
00CG01	READ AND DO C/L EQUIP COOLING LT OFF	1P00CG01		0	10CP1	1P	06	0	10 P1
		1P00CG02		2.5	10CP1	7B	80	3.5	10CP1
		7B	79	5.2	10CP1	7B	81	6.3	10CP1
		1P00CG03		6.3	10CP1	1P	02	8.5	10 P1
00DA01	READ AND DO C/L HYD SYS A LOSS	1P00DA01		0	10CP1	1P	02	0	10 P2
		1P00DA02		2	10CP1	1P	02	2	10 P3
		4A	19	5	10 P1	4A	07	6.05	10 P1
		4A	03	6.71	10 P1	1P00DA03		10.04	10 P1
		1P	02	10.04	10 P2	4A	08	12	10 P3
		1P00DA04		12	10CP1	1P	02	12.9	10 P2
		7A	09	14.9	10CP1	7A	02	15.45	10CP4
		7A	10	18.2	10CP1	7A	37	18.8	10CP1
		7A	04	21.0	10CP3	7A	38	22.46	10CP1
		1P00DA05		23.01	10CP1	1P	02	23.01	10 P3
		4H	06	24.4	10 P1	1P00DA06		26.8	10 P1
		1P	02	26.8	10CP2	7A	21	28.8	10CP1
		7A	19	30.9	10CP2	7A	20	32.9	10CP1
		1P00DA07		34.9	10CP1	1P	17	34.9	10 P1
		1P00DA08		38.4	10CP1	1P	17	38.4	10 P1
		1P00DA09		41.9	10CP1	1P	17	41.9	10 P1
		1P00DA10		45.4	10 P1	1P	17	45.4	10CP1
		1P00DA11		49.4	10 P1	1P	07	49.4	10CP1
00FA01	READ AND DO C/L GEAR NOT SEALED LT	4D	55	0	10CP1	1P00FA01		1	10 P1
		1P	02	1	10CP2	1P00FA02		10.0	10CP1
		1P	06	10.0	10 P1	1P00FA03		12.5	10CP1
		1P	02	12.5	10 P2	4D	54	14.5	10CP1
		4D	56	17.4	10CP1				10
00FC01	READ AND DO C/L SYS A/B BRAKE PRESS LOSS	7A	19	0	10CP2	1P00FC01		0	10CP1
		1P	02	0	10 P2	1P00FC02		10.0	10CP1
		1P	02	10.0	10 P2	1P00FC03		12.0	10CP1
		1P	02	12.0	10 P1	4D	41	13.5	10CP1
		1P00FC04		16.1	10CP1	1P	03	18.1	10 P1
00FG01	READ AND DO C/L ANTI -SKID INOP LT	4D	37	0	10CP1	1P00FG01		.6	10CP1
		1P	02	.6	10 P2	1P00FG02		10.6	10CP1
		1P00FG03		13.1	10CP1	1P	17	10.6	10 P3
		4D	41	14.6	10CP1	1P00FG04		17.1	10CP1
		1P	17	17.1	10 P3	1P	03	21.1	10 P1
		1P00FG05		21.6	10CP1	1P	02	21.6	10 P1
		1P	03	23.1	10 P1				10
00FF01	READ AND DO C/L AUTO BRAKE INOP	4D	39	0	10CP1	1P00FF01		.6	10CP1
		1P	02	.6	10 P2	1P00FF02		10.6	10CP1
		1P	02	10.6	10 P2	1P00FG03		12.6	10CP1
		1P	02	12.6	10 P2	4D	41	14.6	10CP1
00GA01	READ AND DO C/L DUCT OVERHEAT LT	1P00GA01		0	10CP1	1P	02	0	10 P2
		1P00GA02		2	10CP1	1P	02	2	10 P2
		7D	29	4	10CP1	7D	41	5.88	10CP1
		7D	43	9.09	10CP1	7D	44	11.78	10CP1
		7D	47	13.85	10CP2				10
00GA02	DUCT TEMP INCR OR MIX VALUE MOVES TO HOT				10				10
					10				10
					10				10

00GA03	READ AND DO C/L DUCT OVRHT FOR EVENT GA02	1P00GA03	0	10CP1	1P	02	0	10	P2
		7D 56	2	10CP1	7D	43	5.23	10CP1	
		7D 44	7.30	10CP1				10	
00GB01	READ AND DO C/L PACK TRIP OFF LT	1P00GB01	0	10CP1	1P	02	0	10	P1
		1P00GB02	1.5	10CP1	1P	02	1.5	10	P1
		7D 42	3.0	10CP1	7D	53	6.21	10CP2	
		7D 43	8.33	10CP3	7D	44	9.33	10CP1	
		1P00GB03	11.40	10CP1	1P	02	11.40	10	P2
		7D 29	13.40	10CP1	7D	22	15.28	10CP1	
00GC01	READ AND DO C/L WING -BODY OVRHT LT	1P00GC01	0	10CP1	1P	02	0	10	P2
		1P00GC02	2	10CP1	1P	06	2	10	P1
		7D 31	4.5	10CP2	7D	41	6.35	10CP2	
		7D 43	9.56	10CP3	1P00GC03		10.56	10CP1	
		1P 02	10.56	10 P1	7D	28	12.06	10CP1	
		7D 22	14.66	10CP1				10	
00GD01	READ AND DO C/L BLEED TRIP OFF LT	1P00GD01	0	10CP	1P	02	0	10	P1
		1P00GD02	1.5	10CP	1P	02	1.5	10	P2
		7D 29	3.5	10CP	7D	26	5.38	10CP1	
00GE01	READ AND DO C/L AUTO FAIL LT	1P00GE01	0	10CP1	1P	02	0	10	P1
		1P00GE02	1.5	10CP1	1P	02	1.5	10	P2
		7E 19	3.5	10CP1	7E	23	6.15	10CP1	
		7E 27	7.12	10CP1	7E	02	7.78	10CP2	
		7E 01	9.83	10CP1				10	
00GF01	READ AND DO C/L OFF SCHED DESCENT	1P00GF01	0	10CP1	1P	02	0	10	P2
		1P00GF02	2	10CP1	1P	16	2	10	P3
		3H 02	5	10CP1	7E	09	5.77	10CP1	
		7E 10	8.56	10CP1	7E	25	9.76	10CP1	
		7E 01	11.06	10CP1				10	
00HA01	READ AND DO C/L ANTI -ICE VALVE FAIL OPEN	1P00HA01	0	10CP1	1P	17	0	10	P1
		1P00HA02	3.5	10CP1	1P	07	3.5	10	P1
		3U 01	8	10 *1				10	
00JA01	READ AND DO C/L OUTR FFD WINDOW CRACKED	1P00JA01	0	10CP1	1P	02	0	10	P1
		1P00JA02	12	10CP1	1P	02	12	10	P2
		7K 15	14	10CP1	7K	16	14	10CP1	
		1P00JA03	15.2	10CP1	1P	07	15.2	10	P1
		1P00JA04	19.7	10CP1	1P	07	19.7	10	P1
		1P00JA05	24.2	10CP1	1P	07	24.2	10	P1
		1P 03	28.7	10 P1	1P00JA06		29.2	10	P1
		1P 02	29.2	10CP2	1P	03	31.2	10CP1	
00JB01	READ AND DO C/L WINDOW OVRHT LT ON	1P00JB01	0	10CP1	1P	02	0	10	P2
		1P00JB02	2	10CP1	1P	02	2	10	P2
		7K 15	4	10CP1	7K	16	4	10CP1	
		1P00JB03	5.2	10CP1	1P	16	5.2	10	P3
		1P 03	8.2	10 P1				10	
00KA01	READ AND DO C/L STAB TRIM RUNAWAY	1P00KA01	0	10 P1	1P	02	2	10CP2	
		4G 09	2	10 P2	1P00KA02		12.22	10CP1	
		1P 07	12.22	10 P1	1P	03	16.72	10	P1
		1P00KA03	17.22	10CP1	1P	02	17.22	10	P2
		1P 03	19.22	10 P1	1P00KA04		19.72	10CP1	
		4G 16	21.72	10 P1	4G	05	26.72	10	P1
00KB01	READ AND DO C/L JAM-MED CNTRLS	1P00KB01	0	10 P1	1P	17	0	10CP3	
		1P 03	3.5	10CP1	4A	64	3.5	10	*3
		1P00KB02	18.5	10CP1	1P	16	18.5	10	P3
		1P00KD03	21.5	10CP1	1P	07	21.5	10	P1
		1P 03	26	10 P1				10	
00KC01	READ AND DO C/L JAM-MED STAB CNTRL	1P00KC01	0	10 P1	1P	17	0	10CP3	
		4G 05	.5	10 P1	1P	03	4	10CP1	
		4G 16	4	10 P1	4G	16	4	10CP2	
		4G 02	8.5	10 P3	4G	02	8.5	10CP2	
		1P00KC02	21.92	10CP1	1P	17	21.92	10	P3

		4G	17	25.92	10 P1	4G	17	25.92	10CP2
		1P	03	29.42	10 P1	1P00KC	03	29.92	10CP1
		1P	06	29.92	10 P1	1P	03	32.42	10 P1
		1P00KC	04	32.92	10CP1	1P	16	32.92	10 P3
		1P00KC	05	35.92	10CP1	1P	07	35.92	10 P1
		1P	03	40.42	10 P1	1P00KC	06	40.92	10CP1
		1P00KC	07	44.92	10 P1				10
00KX01	READ AND DO C/L FOR ABNORMAL CONDITION	1P00KX	01	0	10CP1	1P	10	0	10 P1
		7J	08	1	10CP2	7J	10	3.76	10CP1
		7J	02	5.26	10CP1	7J	12	7.05	10 *1
		7J	14	7.59	10 *1	7J	16	8.13	10 *1
		7J	22	8.67	10 *1	7K	07	9.21	10CP1
		7K	11	13.43	10 *1	7J	24	14.57	10CP3
		7J	26	15.99	10CP3	7J	28	17.41	10 *2
		7J	30	17.41	10 *2	7J	32	17.91	10 *2
		7J	34	17.91	10 *2	7J	36	18.41	10 *2
		7J	38	18.41	10 *2	1P00KX	02	18.91	10CP1
		1P00KX	03	19.41	10CP1	1P	02	19.41	10 P2
		7E	06	21.15	10CP1				10
		7E	08	22.31	10CP1	7E	01	23.48	10CP1
		1P00KX	04	24.76	10CP1	1P	02	24.76	10 P1
		1P00KX	05	26.26	10CP1	1P	02	26.26	10 P1
		7M	03	27.26	10 P3	7M	06	31.30	10 P4
		1P00KX	06	33.04	10 P1	1P	06	33.04	10CP4
		1P00KX	07	33.84	10CP1	1P	06	33.84	10 P1
		1P	03	36.34	10 P1	1P00KX	08	36.84	10CP1
		1P	02	36.84	10 P1	1P00KX	09	38.34	10 P1
		1P	10	38.34	10CP1	1P00KX	10	39.34	10CP1
		1P	02	39.34	10 P2	3A	05	41.34	10 *3
		1P00KX	11	43.91	10 P1	1P	06	43.91	10CP1
00K 01	READ AND DO C/L LNDG - FLT CNTRL PROBLEMS	1P00K	01	0	10CP1	1P	06	0	10 P1
		1P00K	02	2.5	10CP1	1P	10	2.5	10 P1
		7A	28	3	10CP1	7A	33	4.93	10 *1
		1P00K	03	5.63	10CP1	1P	06	5.63	10 P4
		1P00K	04	6.13	10CP1	1P	10	6.13	10 P1
		4F	02	7.13	10 P3	4F	07	10.39	10 P2
		1P00K	05	10.39	10 P1	1P	10	10.39	10CP1
		1P00K	06	11.39	10CP1	1P	10	11.39	10 P1
		4E	15	11.89	10CP4	4E	17	12.86	10CP1
		1P00K	07	13.86	10CP1	1P	02	13.86	10 P1
		1P00K	08	15.36	10CP1	1P	10	15.36	10 P1
		4D	04	16.36	10 *1	4D	05	18.45	10 *2
		4D	09	18.45	10CP3	1P00K	09	19	10 P1
		1P	02	19	10 P1				10
00KD01	FLAP ASYM ADVISORY - LE DEVICES	1P00KD	01	0	10CP1	1P	06	0	10 P1
		1P00KD	02	2.5	10 P1	1P	06	2.5	10CP1
00KL01	FLAP ASYM ADVISORY - TE FLAPS	1P00KL	01	0	10CP1	1P	07	0	10 P1
		1P00KL	02	4.5	10 P1	1P	07	4.5	10 P1
		1P00KL	03	9	10 P1	1P	07	9	10CP1
00KM01	FLAPS UP LNDG ADVSRY	1P00KM	01	0	10CP1	1P	07	0	10 P1
		1P00KM	02	4.5	10 P1	1P	19	4.5	10CP1
		1P00KM	03	8.5	10CP1	1P	17	8.5	10 P1
		1P00KM	04	12	10 P1	1P	16	12	10CP3
00KN01	READ AND DO C/L FLT CNTRL LOW PRESS LT	1P00KN	01	0	10CP1	1P	02	0	10 P2
		1P00KN	02	2	10CP1	1P	06	2	10 P1
		4A	19	4.5	10 P1	4A	07	5.5	10 P1
		4A	03	6.2	10 P1	1P00KN	03	9.6	10 P1
		1P	02	9.6	10CP1				10
00KP01	READ AND DO C/L YAW DAMPER LT	1P00KP	01	0	10CP1	1P	02	0	10 P2
		1P00KP	02	2	10CP1	1P	02	2	10 P2

		4A	14	4	10 P1	4A	54	6.7	10 P1
		4A	13	7.9	10 P1				10
00KP02	YAW DAMPER DOES NOT	4A	55	0	10 *1	1P00KP03		1.2	10CP1
	RESET	1P	06	1.2	10 P1	4A	14	3.7	10 P1
		1P00KP04		3.7	10CP1	1P	06	3.7	10 P1
		1P	03	6.4	10 P1				10
00KQ01	READ AND DO C/L STAB	1P00KQ01		0	10 P1	1P	06	0	10CP1
	OUT OF TRIM LT	4A	76	0	10 P1	4A	02	2	10 P1
		4A	77	2	10 P1	4G	14	5	10 P3
		1P00KQ02		12	10CP1	1P	02	12	10 P1
		1P00KQ03		13.5	10CP1	1P	02	13.5	10 P2
		1P	03	15.5	10 P1	1P00KQ04		16	10CP1
		1P	02	16	10 P1	1P	03	17.5	10 P1
		1P00KQ05		18	10CP1	1P	06	18	10 P1
		1P	03	21	10 P1				10
00KR01	READ AND DO C/L SPD	4F	02	0	10 P4	4F	05	2.8	10 P2
	BRAKE NOT ARMED	1P00KR01		2.8	10 P1	1P	06	2.8	10CP1
		4F	01	2.9	10 P1	1P00KR02		13	10CP1
		1P	06	13	10 P1	1P00KR03		15.5	10CP1
		1P	16	15.5	10 P3	1P	03	18.5	10 P1
		1P00KR04		19	10CP1	1P	16	19	10 P3
		1P	03	22	10 P1				10
00KS01	READ AND DO C/L MACH	1P00KS01		0	10CP1	1P	02	0	10 P1
	TRIM FAIL	1P00KS02		1.5	10CP1	1P	16	1.5	10 P3
		1P	03	4.5	10 P1	3F	01	5	10 P1
		4B	07	5	10 P2	3F	01	8	10 P1
00EC01	MONITOR SMOKE IN				10				10
	FLT DECK				10				10
00EC02	ACTION ITEMS FLEC	7B	33	0	10 P1	7B	30	1.72	10 P1
	SYS SMOKE/FIRE	7B	43	2.31	10 P1	7B	40	4.03	10 P1
		7B	22	4.62	10 P1	7B	26	7.43	10 P1
		7B	36	8.02	10 P1	7A	25	8.61	10CP2
		7B	66	10.75	10 P2	7B	72	12.93	10 P2
		7B	63	14.99	10 P1	7B	68	17.05	10 P2
		7B	72	19.23	10 P2	7B	63	21.29	10 P1
00EC03	NOTE SMOKE DECREASE				10				10
00EC04	SMOKE CONTINUE				10				10
00EC05	READ/RESPOND PRIMARY	1P00EC01		0	10CP1	1P	05	0	10 P1
	C/L ELEC SMOKE/FIRE	1P00EC02		5	10CP1	1P	02	5	10 P2
		1P00EC03		7	10 P1	1P	07	7	10CP1
		1P00EC04		11.5	10 P1	1P	13	11.5	10CP3
		1P	03	15	10CP1	1P00EC05		15.5	10CP1
		1P	02	15.5	10 P2	1PXXXX05		17.5	10 P1
		1P	06	17.5	10CP4	1P00EC07		18	10CP1
		1P	05	18.0	10 P1	1P00EC08		23	10CP1
		1P	16	23	10 P3	1P00EC09		26	10CP1
		1P	02	26	10CP3				10
00EC06	READ/RESPOND PRIMARY	1P00EC10		0	10CP1	1P	02	0	10 P2
	C/L ELEC SMOKE/FIRE	7B	44	2	10 P2	7B	41	3.5	10 P1
		7B	26	4	10 P1	7B	63	4.7	10 P1
		1PXXXX05		6.8	10 P1	1P00EC11		7.2	10CP1
		1P	05	7.2	10 P2	1P00EC12		13.5	10 P1
		1P	07	13.5	10CP1				10
00EC07	READ AND DO C/L -A-	1P00EC12		0	10CP1	1P	02	0	10 P2
	ELEC SMOKE/FIRE	7B	34	1	10 P1	7B	31	3	10 P1
		1P00EC13		3.6	10CP1	1P	02	3.6	10 P2
		7B	43	4.6	10 P1	7B	40	6.32	10 P1
		7B	63	6.91	10 P2	7B	66	7.91	10 P2
		7B	63	10.09	10 P2	1P00EC14		11	10 P1
		1P	02	11	10CP3	1P00EC15		14	10CP1

		1P	07	14	10 P1	1P	03	18.1	10 P1
00EC08	READ AND DO C/L -B-	1P00EC	16	0	10CP1	1P	02	0	10 P2
	ELEC SMOKE/FIRE	7B	42	2	10 P1	7B	41	3.72	10 P1
		7B	63	4.31	10 P2	7B	66	5.31	10 P2
		7B	63	7.49	10 P2	1PXXXX	04	8.49	10 P1
		1P00EC	17	8.99	10CP1	1P	02	8.99	10 P2
		7B	31	10.99	10 P1	1PXXXX	04	11.28	10 P1
		1P00EC	18	11.78	10CP1	1P	02	11.78	10 P1
		1P	03	13.28	10 P1	1P00EC	19	13.78	10CP1
		1P	02	13.78	10 P2	7B	16	15.78	10 P1
		7B	18	18.72	10 P2	1PXXXX	04	19.31	10 P1
		1P00EC	20	19.81	10CP1	1P	02	19.81	10 P1
		7B	55	21.31	10 P1	7B	54	23.37	10 P2
		1PXXXX	05	24.37	10 P1	1P00EC	21	24.87	10CP1
		1P	02	24.87	10 P2	7B	23	26.87	10 P1
		7B	27	29.68	10 P1	7B	37	30.27	10 P1
		1PXXXX	06	30.86	10 P1				10
00EC09	READ ELEC SMOKE/FIRE	1P00EC	22	0	10CP1	1P	05	0	10 P3
	ADVISORIES	1P00EC	23	4	10CP1	1P	05	4	10 P3
		1P00EC	24	8	10CP1	1P	06	8	10 P1
		1P00EC	25	10.5	10 P1	1P	05	10.5	10CP3
00ED01	PILOT/CO-PILOT MON				10				10
	CABIN PRESS DROP				10				10
00ED02	ACTION ITEMS RAPID	7E	20	0	10CP1	7E	28	2.7	10CP1
	DEPRESSURIZATION	7E	13	3.3	10CP1	7E	12	5.5	10CP4
		7G	50	6.2	10 P1	7G	51	8.5	10 P1
00ED03	READ/RESPOND C/L	1A	27	0	10CP1	1P00ED	01	0	10CP1
	RAPID DEPRESSURING	1P	02	0	10 P2	7H	12	2	10 *1
		1A	26	3.5	10 P1	1P	03	4	10 P1
		1A	27	4.5	10CP3	1P00ED	02	4.5	10CP1
		1P	02	4.5	10 P2	1P00ED	03	6.5	10CP1
		1P	02	6.5	10 P2	7E	28	8.5	10 *1
		1A	26	9.2	10CP3	1P00ED	04	9.2	10CP1
		1P	02	9.2	10 P2	7E	12	11.2	10 *4
		1A	26	11.9	10CP3	1P00ED	05	11.9	10CP1
		1P	02	11.9	10 P3	7G	51	14.9	10 *1
		1A	27	15.9	10CP3	1P00ED	06	15.9	10CP1
		1P	02	15.9	10 P2	1A	28	17.9	10 P1
		1P	03	18.4	10 P1	1A	26	18.9	10CP1
		1P00ED	07	18.9	10CP1	1P	02	18.9	10 P3
		1A	26	21.9	10 P1	1P	03	22.4	10 P1
		1A	27	22.9	10CP2	1P00ED	08	22.9	10CP1
		1P	13	22.9	10 P3	7E	01	26.4	10 *1
		7E	02	28.9	10 *1	1A	26	31.31	10CP3
		1P00ED	09	31.31	10CP1	1P	02	31.31	10 P2
		7H	10	33.31	10 *1	1A	26	34.71	10 P1
		1P	03	34.71	10 P1				10
00EE01	PILOT DECIDES EMERG				10				10
	DESCENT REQUIRED				10				10
00EE02	PRIMARY ACTION ITEMS	1G	03	0	10CP1	1G	01	2.32	10 P1
	EMERG DESCENT	1A	27	3.73	10CP4	1P00EE	01	3.73	10 P1
		7M	03	0	10 P3	7M	06	3.54	10 P4
		4A	29	6.78	10 P1	4B	08	6.78	10 P1
		7E	05	7.73	10CP1	7E	06	7.73	10CP2
		7F	33	7.78	10 P2	7F	34	7.78	10 P2
		4F	03	7.78	10 P1	3A	08	10.77	10 P1
		3A	11	12.77	10 P1	3L	03	12.77	10 P1
		3H	04	12.77	10 P1				10
00EE03	READ/RESPOND C/L	1A	27	0	10CP1	1P00EE	02	0	10CP1
	EMERG DESCENT	1P	02	0	10 P3	1A	27	3	10CP3

		1P00EE03	3	10CP1	1P	05	3	10	P3
		1A 29	7	10 P4	1P00EE04		7	10	P1
		1P 05	7	10CP3	1A	27	11	10CP	2
		1P00EE05	11	10CP1	1P	02	11	10	P1
		1A 27	12.5	10CP2	1P00EE06		12.5	10CP	1
		1P 02	12.5	10 P1	1A	27	14	10	*2
		1P00EE07	14	10CP1	1P	02	14	10	P1
		1A 29	15.5	10 P1	1P00EE08		15.5	10CP	1
		1P 02	15.5	10 P3	1A	29	18.5	10	P4
		1P00EE09	18.5	10CP1	1A	28	18.5	10	P1
		1A 26	23	10 P1	1P	03	23.5	10	P1
		1A 27	24	10CP3	1P00EE10		24	10CP	1
		1P 02	24	10 P2	4F	01	26	10	P1
		1A 27	27.5	10CP2	1P00EE11		27.5	10CP	1
		1P 02	27.5	10 P1	7H	10	29	10	*1
		1A 27	30.4	10CP3	1P00EE12		30.4	10CP	1
		1P 02	30.4	10 P2				10	
00EF01	PRIMARY ACTION ITEMS	7P 39	0	10 *1	7P	47	1	10CP	1
	FIRE NARN APU	7P 33	2.35	10 P2	7P	34	4.24	10	P3
		7P 27	6.37	10 P1	7L	01	7.58	10	P1
00EF02	READ/RESPOND C/L APU	1P00EF01	0	10CP1	1P	02	0	10	P1
	FIRE WARN	7L 17	1.5	10 *1	1P00EF02		2.04	10	P1
		1P00EF03	3.54	10CP1	1P	02	3.54	10	P3
		1P 03	6.54	10 P1	1P00EF04		7.04	10CP	1
		1P 07	7.04	10 P1	1P	03	11.54	10	P1
		1P00EF05	12.04	10CP1	1P	05	12.04	10	P3
		1P 03	16.54	10 P1				10	
00EG01	PRIMARY ACTION ITEMS	7P 39	0	10 *1	7P	47	1	10	P1
	WHEEL WELL FIRE	7P 13	2.35	10 P1	4B	08	3.59	10	P1
		3A 11	6	10 P4	4B	03	22	10	P1
00EG02	ATTAIN GEAR EXT SPD			10				10	
	START 160060 6			10				10	
00EG03	READ/RESPOND C/L	1P00EG01	0	10CP1	1P	02	0	10	P1
	WHEEL WELL FIRE	1P 03	1.5	10 P1	1P00EG02		2	10CP	1
		1P 07	2	10 P1	1P	03	6.5	10	P1
		1P00EG03	7	10CP1	1P	07	7	10	P1
		1P00EG04	11.5	10 P1	1P	05	11.5	10CP	3
00XX04	OX MASK/SMOKE GOGGLE	7H 17	0	10 *1	7H	24	4	10	*1
	PROC COCKPIT SMOKE	7H 12	8	10 *1	1A	22	12	10	*1
		1F 06	10	10 *3	1A	27	13.5	10CP	2
		1PXXXX01	13.5	10CP1	1P	02	13.5	10	P1
		1A 26	15	10 P3	1PXXXX02		15	10	P1
		1P 02	15	10CP1	8E	03	6	10	*1
		7Q 02	6	10 P1				10	
00EX01	READ/RESPOND C/L	1A 27	0	10CP4	1P00EX01		0	10CP	1
	COCKPIT SMOKE	1P 06	0	10 P1	1P00EX02		2.5	10CP	1
		1P 02	2.5	10 P1	1P00EX03		4	10CP	1
		1P 02	4	10 P1	1P00EX04		5.5	10CP	1
		1P 02	5.5	10 P1	1A	26	7	10	P1
		1P 03	7.5	10 P1				10	
00EH01	ADVISORY/SECONDARY	1A 27	0	10CP3	1P00EH01		0	10CP	1
	ITEMS COCKPIT SMOKE,	1P 05	0	10 P3	1A	27	4	10CP	3
	NO VENTING OR PRESS	1P00EH02	4	10CP1	1P	02	4	10	P2
	URIZATION	1A 28	6	10 P1	1P	03	6.0	10	P1
		4B 08	7	10 P1	7F	25	7	10	P4
		7F 30	7	10 P3	7F	21	7.44	10	P3
		7F 22	7.44	10 P3	7F	33	7.88	10	P2
		7F 34	7.88	10 P2	3A	10	8.32	10	P1
		1A 27	38.32	10 P2	1P00EH03		38.32	10	P1
		1P 02	38.32	10CP1	1A	29	39.32	10CP	3

			1P00EH04	39.32	10CP1	1P	02	39.32	10 P2
00EH02	ADVISORY/SECONDARY		1P00EH05	0	10CP1	7E	19	2.5	10CP1
	ITEMS COCKPIT SMOKE		1P00EH06	5	10CP1	7E	09	9	10CP1
	NORMAL VENTILATION		7E 01	11.79	10CP2	1P00EH07		12.50	10CP1
			7E 11	15.50	10CP1	7E	37	17.63	10CP1
			1P00EH08	18.40	10CP1	7D	10	20.40	10CP1
			7D 22	21.40	10CP1	1PXXXX04		21.90	10CP1
			1PXXXX04	23.40	10CP1	7D	13	25.40	10CP1
			7D 26	25.40	10CP1	1PXXXX04		26	10CP1
			1P00EH09	27	10 P1	1P	05	27	10 P3
			4B 03	31	10 P1	7F	27	33.34	10 P2
			7F 29	33.34	10 P2	1PXXXX06		34.10	10 P1
			1P00EH10	34.60	10CP1	1P	06	34.60	10 P1
			1P 03	37.10	10 P1				10
00IV01	COPILOT MONITOR		2K 56	0	10CP1	1P00IV01		5	10CP1
	TRAFFIC SITUATION		1P 02	5	10 P1	1P	03	7	10 P1
00IV02	COPILOT MONITOR		2K 56	0	10CP2	1P00IV01		5	10CP1
	TRAFFIC SITUATION		1P 02	5	10 P1	1P	03	7	10 P1
00IV03	COPILOT MONITOR		2K 56	0	10CP3	1P00IV01		5	10CP1
	TRAFFIC SITUATION		1P 02	5	10 P1	1P	03	7	10 P1
00IV04	COPILOT MONITOR		2K 56	0	10CP4	1P00IV01		5	10CP1
	TRAFFIC SITUATION		1P 02	5	10 P1	1P	03	7	10 P1
00IV05	COPILOT MONITOR		2K 57	0	10CP1	1P00IV01		5	10CP1
	TRAFFIC SITUATION		1P 02	5	10 P1	1P	03	7	10 P1
00IV06	COPILOT MONITOR		2K 57	0	10CP2	1P00IV01		5	10CP1
	TRAFFIC SITUATION		1P 02	5	10 P1	1P	03	7	10 P1
00IV07	COPILOT MONITOR		2K 57	0	10CP3	1P00IV01		5	10CP1
	TRAFFIC SITUATION		1P 02	5	10 P1	1P	03	7	10 P1
00IV08	COPILOT MONITOR		2K 57	0	10CP4	1P00IV01		5	10CP1
	TRAFFIC SITUATION		1P 02	5	10 P1	1P	03	7	10 P1
00IV09	COPILOT MONITOR		2K 58	0	10CP1	1P00IV01		5	10CP1
	TRAFFIC SITUATION		1P 02	5	10 P1	1P	03	7	10 P1
00IV10	COPILOT MONITOR		2K 58	0	10CP2	1P00IV01		5	10CP1
	TRAFFIC SITUATION		1P 02	5	10 P1	1P	03	7	10 P1
00IV11	COPILOT MONITOR		2K 58	0	10CP3	1P00IV01		5	10CP1
	TRAFFIC SITUATION		1P 02	5	10 P1	1P	03	7	10 P1
00IV12	COPILOT MONITOR		2K 58	0	10CP4	1P00IV01		5	10CP1
	TRAFFIC SITUATION		1P 02	5	10 P1	1P	03	7	10 P1
00EV01	C/P EXT VIS SCAN		8A 10	0	10CP1				10
00EV02	C/P EXT VIS SCAN		8A 10	0	10CP2				10
00EV03	C/P EXT VIS SCAN		8A 10	0	10CP3				10
00EV04	C/P EXT VIS SCAN		8A 10	0	10CP4				10
00EV05	C/P EXT VIS SCAN		8A 11	0	10CP1				10
00EV06	C/P EXT VIS SCAN		8A 11	0	10CP2				10
00EV07	C/P EXT VIS SCAN		8A 11	0	10CP3				10
00EV08	C/P EXT VIS SCAN		8A 11	0	10CP4				10
00EV09	C/P EXT VIS SCAN		8A 12	0	10CP1				10
00EV10	C/P EXT VIS SCAN		8A 12	0	10CP2				10
00EV11	C/P EXT VIS SCAN		8A 12	0	10CP3				10
00EV12	C/P EXT VIS SCAN		8A 12	0	10CP4				10
00EV13	C/P EXT VIS SCAN		8A 13	0	10CP1				10
00EV14	C/P EXT VIS SCAN		8A 13	0	10CP2				10
00EV15	C/P EXT VIS SCAN		8A 13	0	10CP3				10
00EV16	C/P EXT VIS SCAN		8A 13	0	10CP4				10
00EV17	C/P EXT VIS SCAN		8A 14	0	10CP1				10
00EV18	C/P EXT VIS SCAN		8A 14	0	10CP2				10
00EV19	C/P EXT VIS SCAN		8A 14	0	10CP3				10
00EV20	C/P EXT VIS SCAN		8A 14	0	10CP4				10
00EV21	PILOT EXT VIS SCAN		8A 10	0	10 P1				10
00EV22	PILOT EXT VIS SCAN		8A 10	0	10 P2				10

00EV23	PILOT EXT VIS SCAN	8A	10		0	10	P3					10	
00EV24	PILOT EXT VIS SCAN	8A	10		0	10	P4					10	
00EV25	PILOT EXT VIS SCAN	8A	11		0	10	P1					10	
00EV26	PILOT EXT VIS SCAN	8A	11		0	10	P2					10	
00EV27	PILOT EXT VIS SCAN	8A	11		0	10	P3					10	
00EV28	PILOT EXT VIS SCAN	8A	11		0	10	P4					10	
00EV29	PILOT EXT VIS SCAN	8A	12		0	10	P1					10	
00EV30	PILOT EXT VIS SCAN	8A	12		0	10	P2					10	
00EV31	PILOT EXT VIS SCAN	8A	12		0	10	P3					10	
00EV32	PILOT EXT VIS SCAN	8A	12		0	10	P4					10	
00EV33	PILOT EXT VIS SCAN	8A	13		0	10	P1					10	
00EV34	PILOT EXT VIS SCAN	8A	13		0	10	P2					10	
00EV35	PILOT EXT VIS SCAN	8A	13		0	10	P3					10	
00EV36	PILOT EXT VIS SCAN	8A	13		0	10	P4					10	
00EV37	PILOT EXT VIS SCAN	8A	14		0	10	P1					10	
00EV38	PILOT EXT VIS SCAN	8A	14		0	10	P2					10	
00EV39	PILOT EXT VIS SCAN	8A	14		0	10	P3					10	
00EV40	PILOT EXT VIS SCAN	8A	14		0	10	P4					10	
00EV41	TDZ VIS LAND SCAN	8A	15		0	10	P1					10	
00EV42	TDZ VIS LAND SCAN	8A	15		0	10	P2					10	
00EV43	TDZ VIS LAND SCAN	8A	15		0	10	P3					10	
SYD132	CROSS WPT DD132					10						10	
SYD133	CROSS WPT DD133					10						10	
SYD134	CROSS WPT DD134					10						10	
SYD135	CROSS WPT DD135					10						10	
	BEGIN 3 DEG DESCENT					10						10	
SYA131	CROSS WPT AC131					10						10	
SYA132	CROSS WPT AC132					10						10	
SYSFAF	CROSS FINAL FIX					10						10	
010001	COCKPIT SAFETY	4C	22		0	10	P1	7B	84		2.18	10	P1
	INSPECTION	7B	57		3.08	10	P2	7B	53		5.16	10	P1
		7B	52		7.22	10	P1	7A	29		12	10	P1
		4D	47		14	10	P1	4D	05		15	10	P2
		4D	09		15.54	10	P3	6A	17		18	10	P1
		4E	16		20.17	10	P1	7P	48		22.67	10	P1
		7P	49		23.57	10	P1	7P	09		25.19	10	P2
		7P	05		25.73	10	P2	7P	08		26.27	10	P2
		7P	50		26.81	10	P2	7P	10		27.35	10	P1
		7P	46		27.89	10	P1	7P	15		28.43	10	P2
		7P	21		31.08	10	P2	7P	22		31.62	10	P2
		7P	52		32.16	10	P1	7P	40		32.66	10	P1
		7P	11		35	10	P1	7P	12		36.63	10	P1
		7L	19		40	10	P1	7L	13		50	10	P1
		7B	24		55	10	P1	7B	34		56	10	P1
		7B	44		57.98	10	P2	7B	25		58	10	P1
		8D	01	1	5	10	P1	7H	19	1	15	10	P1
		8D	02	1	23	10	P1	7H	20	1	30	10	P1
		7B	85	1	35	10	P1	7B	86	1	40	10	P2
		3F	03	1	45	10	P2	3F	02		145.69	10	P1
		4A	41	1	50	10	P2	4A	43		152.16	10	P2
		4A	38		152.48	10	P1	4A	61		153.48	10	P1
		4A	40		155.49	10	P2	7H	06	2	0	10	P1
		7H	21		203.50	10	P1	7K	11	2	7	10	P1
		8D	03	2	10	10	P1					10	
010002	PILOT SEATED	8C	03		0	10	P1					10	
010003	CO-PILOT SEATED	8C	03		0	10	CP1	8C	02		3	10	CP1
		4A	46		17	10	CP1					10	
010004	BEFORE START PROC -1	8B	010001		0	10	P1	8B	08		20	10	P1
	-LIGHTS/SEATS/PEDAL	7G	31		25	10	P2	7G	46		25	10	P1
		8C	02		40	10	P1					10	

		4A	46	53	10	P1				10	
010005	BEFORE START PROC -2	7H	17	0	10	P1	7H	14	5	10	P1
	-OXYGEN SYS	7H	11	6.4	10	P1	7H	22	7.8	10	P1
		7H	10	11.80	10	P1	7H	23	13.2	10	P1
		7H	13	17.2	10	P1	7H	12	18.6	10	P1
		7H	24	20.1	10	P1	7H	11	25	10	P1
		7H	24	26.4	10	P1	7H	12	30.4	10	P1
		7H	08	32	10	P1	7H	25	33.3	10	P1
		7H	09	37.3	10	P1	1A	22	42	10	P2
		1F	06	44.35	10	P3	7H	18	50	10	P1
		8D	04	55	10	P1	8E	01	57	10	P1
		8E	02	59	10	P1				10	
010007	BEFORE START PROC -3	4A	48	0	10	P1	4A	49	2.79	10	P1
	-FLIGHT CONTROL SYS	4A	50	4.81	10	P1	4A	51	6.85	10	P1
		4A	52	8.89	10	P1	4A	53	10.91	10	P1
010008	BEFORE START PROC -4	7C	67	0	10	P1	7C	68	1.14	10	P1
	-FUEL SYS	7C	49	1.97	10	P1	7C	57	2.52	10	P1
		7C	69	3.07	10	P1	7C	13	3.88	10	P1
		7C	24	4.43	10	P1	7C	26	5.88	10	P1
		7C	30	7.33	10	P1	7C	34	8.78	10	P1
		7C	38	10.23	10	P1	7C	42	11.68	10	P1
010009	BEFORE START PROC -5	7B	57	0	10	P2	7B	67	2.18	10	P2
	-ELECTRICAL SYS	7B	70	4.36	10	P1	7B	17	4.92	10	P2
		7B	88	6.88	10	P1	7B	89	8.21	10	P1
		7B	9[illegible]	9.01	10	P1	7B	91	10.40	10	P1
010010	BEFORE START PROC -6	7G	07	0	10	P3	7G	09	2.73	10	P2
	-LIGHTS	7B	92	4.23	10	P1	7G	35	5.58	10	P1
		7G	38	7.48	10	P1	7G	02	8.02	10	P1
		7G	05	9.82	10	P1	7K	10	11.53	10	P1
010011	BEFORE START PROC -7	7K	07	0	10	P1	7K	11	4.22	10	P1
	-ANTI-ICE / HEAT	7J	24	5.36	10	P3	7J	26	6.78	10	P3
		7J	09	8.20	10	P4	7J	11	9.70	10	P4
		7J	05	11.20	10	P2	7J	07	11.73	10	P2
		7J	13	12.26	10	P1	7J	15	12.80	10	P1
		7J	17	13.34	10	P1	7J	19	13.34	10	P1
010012	BEFORE START PROC -8	7A	01	0	10	P4	7A	03	1.46	10	P2
	-HYDRAULIC SYS	7A	09	2.92	10	P1	7A	11	3.47	10	P1
		7A	05	4.02	10	P3	7A	07	5.48	10	P3
		7A	12	6.94	10	P1	7A	14	7.49	10	P1
		7A	19	8.04	10	P1	7A	20	10.28	10	P2
		7A	21	12.52	10	P1				10	
010013	BEFORE START PROC -9	7E	01	0	10	P1	7E	02	1.27	10	P2
	-PRESSURIZATION/AIR-	7D	41	3.32	10	P2	7D	43	6.53	10	P1
	CONDITIONING	7D	50	9.22	10	P3	7D	54	11.34	10	P3
		7D	02	15	10	P2	7D	01	17.70	10	P1
		7D	05	20	10	P3	7D	19	21.52	10	P2
		7D	63	23.04	10	P1	7D	64	24.39	10	P1
		7D	65	25.70	10	P1	7D	66	26.47	10	P1
		7E	05	30	10	P1	7E	06	32.50	10	P1
		7E	07	33	10	P2	7E	08	33.93	10	P1
		7E	11	36	10	P2	7E	09	39	10	P2
		7E	10	40.62	10	P1	7E	16	42	10	P2
		7E	18	44.69	10	P2				10	
010014	BEFORE START PROC-10	7G	24	0	10	P2	7M	12	1.5	10	P2
	-LIGHTS/ENG START/	7M	13	3.5	10	P2	3R	47	5	10	P1
	FLIGHT DIREC	3R	48	6.5	10	P2	3V	19	7.48	10	P1
010015	BEFORE START PROC-11	5K	01	0	10	P1	5K	02	3.5	10	P1
	-COMPASS/ADF/RMI/CI	5K	03	5	10	P2	1P	010001	5	10	P1
		1P	06	5	10	CP1	1P	03	7.5	10	CP1
		5D	23	6.75	10	P1	5E	21	9	10	CP1

		5G	03	8.98	10 P1	5H	01	11.26	10CP1
		3S	14	11.23	10 P2	3S	14	13.59	10CP2
010016	BEFORE START PROC-12	1P010002		0	10CP1	1P	06	0	10 P1
	-ALTIMETER	1P	03	2.5	10 P1	3H	03	3	10 P2
		3H	04	3.28	10 P2	3H	03	3.5	10CP3
		3H	04	3.78	10CP2	3H	04	7	10CP1
		3H	04	7.5	10 P1				10
010017	BEFORE START PROC-13	3L	01	0	10 P3	3L	01	0	10CP3
	-VSI/MACH AIRSPEED	1P010003		2.31	10CP1	1P	06	2.31	10 P2
		1P	03	8.31	10 P1	3A	02	8.81	10 P3
		3A	02	8.81	10CP1	3A	05	11.38	10 P3
		3A	05	11.38	10CP2	3A	04	13.95	10 P1
		3A	04	13.95	10CP1	3A	07	16.52	10 P3
		3A	07	16.52	10CP3				10
010018	BEFORE START PROC-14	3N	02	0	10 P3	3N	01	2.24	10 P1
	-CLOCKS/STDBY HOR	3N	02	0	10CP3	3N	01	2.24	10CP2
		3R	49	5	10 P1	3P	01	8	10 P1
		3P	04	10.7	10 P1				10
010019	BEFORE START PROC-15	7C	72	0	10 P3	7C	09	.1	10 P1
	-FUEL QTY TEST	7C	10	2.12	10 P1	7C	11	4.14	10 P1
010020	BEFORE START PROC-16	1P010004		0	10 P1	1P	02	0	10CP1
	-EPR/OIL QTY/VIBR	8B	04	1.5	10CP1	1P010005		3.5	10CP1
		1P	06	3.5	10CP1	1P	03	6	10 P1
		7F	25	6.5	10 P1	7F	26	9.03	10 P3
		7F	27	9.33	10 P1	7F	30	11.33	10 P2
		7F	28	13.35	10 P3	7F	29	13.65	10 P1
		7F	04	17	10 P4	7F	11	17.2	10 P1
		7F	19	19.25	10 P1	7F	01	23	10 P1
		7F	03	24.91	10 P3	7F	12	26.35	10 P3
		7F	20	28.37	10 P3	7F	02	30.39	10 P1
		7F	03	32.30	10 P3	7F	12	33.74	10 P3
		7F	20	35.76	10 P3				10
010021	BEFORE START PROC-17	4D	48	0	10 P1	4D	38	1.04	10 P1
	-ANTI-SKID/ANTI-BRK	4D	49	1.58	10 P1	4D	40	2.66	10 P1
010022	BEFORE START PROC-18	6A	10	0	10 P2	1N	02	2.38	10 P2
	-CENTER STAND ITEMS	4F	12	4.31	10 P1	4C	23	6.31	10 P1
		4B	04	7.51	10 P1	7M	14	10.05	10 P2
		4D	50	10.83	10 P1	4G	15	11.80	10 P1
010023					10				10
010024					10				10
010025					10				10
010026					10				10
010027					10				10
010028					10				10
010029					10				10
010030	BEFORE START PROC-2C	7H	17	0	10CP1	7H	14	5	10CP1
	-OXYGEN SYS	7H	11	6.4	10CP1	7H	22	7.8	10CP1
		7H	10	11.8	10CP1	7H	23	13.2	10CP1
		7H	13	17.2	10CP1	7H	12	18.6	10CP1
		7H	24	20.1	10CP1	7H	11	25	10CP1
		7H	24	26.4	10CP1	7H	12	30.4	10CP1
		7H	08	32	10CP1	7H	25	33.3	10CP1
		7H	09	37.3	10CP1	1B	23	42	10CP2
		1F	06	44.35	10CP1	7H	18	50	10CP1
		8D	04	1 0	10CP1	8E	01	1 2	10CP1
		8E	02	1 8	10CP1				10
010031	DETERMINE EPR, V1,	8B010004		0	10CP1	8B010006		3	10CP1
	AND V-REF BUG SET	8B	01	33	10CP2	8B010007		35	10CP1
	VALUES	8B	01	1 5	10CP2	8B010005		1 7	10CP1
010032	TUNE COMM RADIOS	8B010002		0	10CP1				10

010033	SET VHF-1L TO	1A	01	0	10CP3	1A	02	0	10CP2
	CLEARANCE DELIVERY	1A	03	2.98	10CP1	1A	05	5	10CP2
	121.65 AND REQUEST	1A	17	6.43	10CP2	1A	19	8.43	10CP4
	CLEARANCE	1A	24	10	10CP1	1A	11	11.42	10CP1
		1P010055		11.42	10CP1	1A	14	18	10CP1
		1P010056		18	10CP1	1P010057		22.26	10CP1
		1P010058		27.94	10CP1	1P010059		33.62	10CP1
		8B	01	24	10CP1	1A	24	37	10CP2
		1A	11	38.42	10CP2	1P010060		38.42	10CP1
		1P010061		42.08	10CP1	1P010073		46.96	10CP1
		1A	14	49.4	10CP2	1P010062		49.4	10CP1
		1P010063		52.9	10CP1	8B	01	51	10CP2
		1A	24	56	10CP3	1A	11	57.42	10CP1
		1P010064		57.42	10CP1				10
010034	SET VHF-2R TO ATIS	1B	07	0	10CP3	1B	08	0	10CP2
	-111.1	1B	09	2.88	10CP1	1B	06	4.86	10CP1
		1B	11	6.31	10CP2	1B	04	8	10CP1
		1B	18	6.31	10CP1	1P010065		6.31	10CP1
		1P010066		10.39	10CP1	1P010067		15.83	10CP1
		1P010068		21.27	10CP1	1P010069		26.71	10CP1
		1P010074		32.15	10CP1	8B	01	11	10CP1
		1B	12	37	10CP4				10
010035	SET XPNDR CODE TO	1N	06	0	10CP3	1N	05	0	10CP1
	2213	1N	08	2.80	10CP1	1N	06	5.41	10CP1
		1N	18	5.41	10CP1				10
010036	SET RADAR	6A	02	0	10CP2	6A	14	2.66	10CP1
		6A	01	5.03	10CP1	6A	09	9.14	10CP1
010037	SET VHF-1R TO GROUND	8B010002		0	10CP1	1A	07	5	10CP3
	CONTROL -121.9	1A	08	5	10CP2	1A	09	7.98	10CP1
010038	SET VHF-2L TO				10				10
	ATLANTA TOWER-119.5	1B	01	0	10CP2	1B	02	0	10CP2
		1B	03	2.9	10CP1				10
010039	SET NAV-1 TO ATLANTA	8B010002		0	10CP1	5U	01	5	10CP3
	VOR -115.6	5U	02	5	10CP3	5U	03	8	10CP2
		5U	11	11	10CP2	5U	12	13	10CP2
010040	SET NAV-2 TO SPAR-	5V	01	0	10CP3	5V	02	0	10CP2
	TANBURG VOR -115.7	5V	03	2.93	10CP1	5V	11	5	10CP1
		5V	12	7.5	10CP2				10
010041	SET ADF-1 TO LAKE-	8B010002		0	10CP1	5D	19	5	10CP3
	SIDE LOM	5D	02	8	10CP3	5D	01	8	10CP2
010042	BEFORE START PROC-19	7G	14	0	10 P1	4G	07	5	10 P1
	-LITES/TRIM/PAPERS	4G	01	10	10 P1	4G	02	15	10 P3
		8B010003		20	10 P1				10
010043					10				10
010044					10				10
010045					10				10
010046					10				10
010047					10				10
010048					10				10
010049					10				10
010050	BEFORE START CHECK-	1P010006		0	10 P1	1P	02	0	10CP2
	LIST - 1	1P	03	2	10CP1	8B	02	3	10CP3
		8B	05	9	10CP2	8B	02	14	10CP1
		1P010007		16	10CP1	1P	02	16	10 P1
		1P010008		19	10 P1	1P	06	19	10CP3
		8B	03	22	10CP1	1P010009		24	10CP1
		1P	02	24	10 P4	1P010010		26	10 P1
		1P	06	26	10 P3	8B	03	27	10CP1
		1P010011		29	10CP1	1P	02	29	10 P4
		1P010012		30	10 P1	1P	06	30	10CP3

010051	BEFORE START CHECK-LIST - 2	8B	03	0	10CP1	1P010013	2	10CP1
		1P	10	2	10 P1	4A 54	3	10 P1
		1P010014		4.21	10 P1	1P 06	4.21	10CP4
		8B	03	5	10CP2	1P010015	7	10CP1
		1P	06	7	10 P4	7C 09	7.5	10 P2
		7C	10	9.77	10 P1	7C 11	11.79	10 P1
		7C	70	13.89	10 P1	1P010016	15.48	10 P1
		1P	07	15.48	10CP1	8B 03	20	10CP1
		1P010017		22	10CP1	1P 10	22	10 P2
		7B	93	22.7	10 P1	1P010014	24.5	10 P1
		1P	06	24.5	10CP4	8B 03	25	10CP1
		1P010018		27	10CP1	1P 10	27	10 P3
		7G	38	28.2	10 P1	1P010019	29	10 P1
		1P	10	29	10CP4	8B 03	30	10CP1
		1P010020		32	10CP1	1P 02	32	10 P2
		7G	48	34	10 P1	1P010021	35.27	10 P1
		1P	06	35.27	10CP4			10
010052	BEFORE START CHECK-LIST - 3	8B	03	0	10CP1	1P010022	2	10CP1
		1P	10	2	10 P1	7A 32	3	10 P1
		1P010026		5	10 P1	1P 07	5	10CP2
		8B	03	6	10CP1	1P010023	8	10CP1
		1P	02	8	10 P2	7D 67	10	10 P1
		7D	63	11.35	10 P1	7D 64	12.7	10 P1
		7D	05	14.01	10 P1	7D 66	14.78	10 P1
		1P010024		15.55	10 P1	1P 07	15.55	10CP3
		8B	03	18	10CP1	1P010025	20	10CP1
		1P	11	20	10 P1	4H 04	20.5	10 P1
		1P010027		22	10 P1	1P 07	22	10CP4
		8B	03	23	10CP1	1P010028	25	10CP1
		1P	11	25	10 P2	1P010029	26	10 P1
		1P	06	26	10CP3	8B 03	27	10CP1
		1P010030		29	10CP1	1P 11	29	10 P3
		4D	38	30	10 P1	1P010014	31	10 P1
		1P	06	31	10CP4	8B 03	32	10CP1
		1P010031		34	10CP1	1P 11	34	10 P3
		4?	49	35	10 P1	1P010032	30.5	10 P1
		1P	06	36.5	10CP4			10
010053	BEFORE START CHECK-LIST - 4	8B	03	0	10CP1	1P010033	2	10CP1
		1P	02	2	10 P2	1P010034	4	10CP1
		1P	10	4	10 P3	8B 03	5.5	10CP1
		1P010035		7.5	10CP1	1P 11	7.5	10 P2
		4F	12	9	10 P1	1P010036	11	10 P1
		1P	06	11	10CP3	8B 03	12	10CP1
		1P010037		14	10CP1	1P 10	14	10 P2
		4D	27	14.7	10 P1	1P010038	18	10 P1
		1P	06	18	10CP4	8B 03	18.5	10CP1
		1P010039		19.5	10CP1	1P 11	19.5	10 P4
		4G	08	21.2	10 P2	4G 10	22.45	10 P2
		1P010026		24	10 P1	1P 07	24	10CP2
		8B	03	25	10CP1	1P010040	27	10CP1
		1P	02	27	10 P2	7P 14	29	10 P1
		1P010010		30.5	10 P1	1P 06	30.5	10CP3
010054	BEFORE START CHECK-LIST - 5	8B	03	0	10CP1	1P010041	2	10CP1
		1P	02	2	10 P1	1P010042	3.5	10 P1
		1P	07	3.5	10CP2	8B 03	4.5	10CP2
		1P010043		7	10CP1	1P 11	7	10 P2
		1P010044		8	10CP1	1P 07	8	10 P2
		8B	03	9	10CP1	1P010045	11	10CP1
		1P	02	11	10 P1	1P010038	13.5	10CP1
		1P	06	13.5	10 P4			10

010055	BEFORE START CHECK-	1P010052	0	10 P1	1P	11	0	10CP4
	LIST - 6	8B 03	2	10CP1	1P010046		4	10CP1
		1P 02	4	10 P4	7D	06	5.3	10 P3
		7D 20	7.95	10 P2	1P010047		10	10 P1
		1P 08	10	10CP1	8B	03	11	10CP1
		1P010048	13	10CP1	1P	11	13	10 P3
		7D 01	14	10 P1	1P010049		16.5	10 P1
		1P 08	16.5	10CP2	8B	03	18.2	10CP1
		1P010050	20.2	10CP1	1P	10	20.2	10 P3
		7G 25	22	10 P1	1P010014		24.5	10 P1
		1P 06	24.5	10CP4	8B	03	25	10CP1
		1P010051	27	10CP1	1P	11	27	10 P4
		8B 08	29	10CP1				10
010056	CONTACT GROUND CON-	1A 06	0	10 P3	1A	25	2.3	10 P1
	TROL FOR PUSHBACK	1A 11	2.3	10 P4	1P010070		2.3	10 P1
	CLEARANCE	1P010071	6.3	10 P1	1A	14	11	10 *2
		1P010072	11	10 *1	1P010075		15.5	10 *1
		1A 25	18	10 P2	1A	11	18	10 P3
		1P010064	18	10 P1				10
010057	PUSHBACK PROCEDURE-1	1F 07	0	10 P1	1F	06	2.44	10 P3
		1H 01	4.43	10 P1	1A	20	10	10 P2
		1F 11	10	10 P1	1P010053		10	10 P1
		1F 09	12	10 P1	1P010054		12	10 P1
		7A 02	13	10 P4	7A	04	15.75	10 P3
		4D 52	17.5	10 P1	8A	03	17.5	10 P4
010058	AIRCRAFT PUSHED BACK			10				10
	FROM GATE			10				10
010059	AIRCRAFT STOPPED ON			10				10
	RAMP			10				10
010060	PUSHBACK PROCEDURE-2	4D 28	0	10 P1				10
010061	TOWBAR DISCONNECTED			10				10
	AND TUG DRIVEN AWAY			10				10
010062	PUSHBACK PROCEDURE-3	1P030001	0	10 *1	1F	09	0	10 P2
020001	BEFORE START PROC-1A	4A 70	0	10 P1				10
	-LITES/SEATS/PEDALS			10				10
020002	BEFORE START PROC -	7G 24	0	10 P2	7M	12	1.5	10 P2
	10A -LITES/ENG STRT	7M 13	3.5	10 P2				10
020003	BEFORE START PROC -	2J 23	0	10 P1	2J	24	2.27	10 P1
	10B -EADI	2J 26	4.54	10 P2	2J	32	5.87	10 P2
020004	BEFORE START PROC -	2K 03	0	10 P1	2K	04	2.64	10 P1
	10C -MFD - CAPT.	2K 02	5.64	10 P2	2K	07	7.61	10 P2
		2K 18	9.53	10 P1	2K	19	11.6	10 P3
		2K 25	12.98	10 P1				10
020005	BEFORE START PROC -	2H 52	0	10 P1	2H	53	0	10 P1
	10D -AGCS	2H 54	2	10 P1	2H	53	2	10 P1
		2H 02	4	10 P1	2H	09	5.05	10 P1
020006	BEFORE START PROC -	8B020001	0	10 P1	8B020002		3	10 P1
	15A -FUEL QTY/V-REF	7C 02	6	10 P1	7C	03	6	10 P1
		7C 07	10	10 P1	7C	01	11.8	10 P1
		8B020003	14.1	10 P1				10
020007	BEFORE START PROC -	2J 36	0	10 P1	2J	37	2	10 P1
	18A -CRTs	2K 54	4	10 P1	2K	55	6	10 P1
		2L 02	8	10 P1				10
020008	CO-PILOT SEATED	8C 03	0	10CP1	8C	02	3	10CP1
		4A 46	13	10CP1	4A	70	16	10CP1
		8E 03	19	10CP1				10
020009	SET VHF-1L TO	1Q 01	0	10CP4	1Q	02	0	10CP2
	CLEARANCE DELEVERY	1Q 03	3	10CP2	1Q	05	4.97	10CP2
	-121.65	1Q 12	6.42	10CP2	1Q	11	8.76	10CP2
		1Q 14	11.56	10CP3	1Q	15	11.56	10CP1

		1P010055	11.56	10CP1	1Q 16	18	10CP1
		1P020001	18	10CP1	1P020002	22	10CP1
		1P020003	26	10CP1	1Q 14	30	10CP4
		1Q 15	30	10CP2	1P020004	30	10CP1
		1P020005	34	10CP1	1P020006	38	10CP1
		1Q 16	43	10CP2	1P010002	43	10CP1
		1P010063	46.5	10CP1	1Q 23	50	10CP1
		1Q 15	50	10CP3	1P010064	50	10CP1
020010	SET VHF-2R TO ATIS	1R 07	0	10CP3	1R 08	0	10CP4
	-111.1	1R 09	2.9	10CP2	1R 12	4.48	10CP2
		1R 06	5.91	10CP2	1R 04	7.38	10CP3
		1R 35	30	10CP3	1P010065	8.96	10CP1
		1P010066	13.04	10CP1	1P010067	18.48	10CP1
		1P010068	23.92	10CP1	1P010069	29.36	10CP1
		1P010074	34.80	10CP1	8B 01	11	10CP1
		1R 13	39	10CP2			10
020011	SET VHF-1R TO GROUND	8B010002	0	10CP1	1Q 07	5	10CP3
	CONTROL -121.9	1Q 08	5	10CP4	1Q 09	7.9	10CP2
020012	SET VHF-2L TO	1Q 01	0	10CP4	1Q 02	0	10CP2
	ATLANTA TOWER-119.5	1Q 03	3	10CP2			10
020013	SET NAV-1 TO ATLANTA	8B010002	0	10CP1	5W 01	5	10CP3
	VOR -115.6	5W 02	5	10CP2	5W 03	7.37	10CP2
		5W 05	9	10CP2			10
020014	SET NAV-2 TO ATLANTA	5X 01	0	10CP3	5X 02	0	10CP2
	VOR -115.6	5X 03	2.95	10CP2	5X 05	4.6	10CP2
020015	SET NAV-3 TO AUGUSTA	8B010002	0	10CP1	5Y 01	5	10CP3
	VOR -113.9	5Y 02	5	10CP1	5Y 03	8.12	10CP2
		5Y 05	9.8	10CP1			10
020016	SET CRTaS	2J 36	0	10CP1	2J 37	2	10CP1
		2K 54	4	10CP1	2K 55	6	10CP1
		2L 02	8	10CP1			10
020017	NCDU TEST	2L 01	0	10CP1	2L 09	2.67	10CP1
		2L 01	7.67	10CP1			10
020018	SYSTEM STATUS CHECK	2L 68	0	10CP3	2L 16	1.46	10CP3
020019	PRE-FLIGHT FLIGHT			10			10
	PLAN INITIALIZATION			10			10
	PROCEDURE			10			10
020020	MFD SET-UP	2K 02	0	10CP4	2K 18	2.67	10CP4
		2K 19	4.05	10CP1	2K 21	5.43	10CP3
		2K 22	6.81	10CP2	2K 07	8.14	10CP3
020021	INITIALIZE PAGE -	2L 63	0	10CP1	2L 19	1.48	10CP1
	TIME OF DAY INPUT	3N 02	3.82	10CP3	2L 28	6.06	10CP1
		2L 20	15.51	10CP2			10
020022	TIME OF DAY-08:15:45	2L 35	7.41	10CP1	2L 33	8.76	10CP2
		2L 26	10.11	10CP3	2L 30	11.46	10CP1
		2L 29	12.81	10CP1	2L 30	14.16	10CP1
020023	INITIALIZE PAGE -	2L 19	0	10CP1	2L 26	2.34	10CP1
	ORIGIN INPUT	2L 07	9.41	10CP2	2L 20	11.46	10CP1
020024	ORIGIN NAME - KATL	2L 47	3.79	10CP1	2L 37	5.14	10CP2
		2L 56	6.6	10CP2	2L 48	8.06	10CP1
020025	INITIALIZE PAGE -	2L 19	0	10CP2	2L 27	2.08	10CP2
	DESTINATION INPUT	2L 07	9.13	10CP2	2L 20	11.20	10CP3
020026	DESTINATION NAME-	2L 47	3.56	10CP1	2L 40	4.88	10CP1
	KDCA	2L 39	6.23	10CP1	2L 37	7.68	10CP1
020027	INITIALIZE PAGE-	2L 19	0	10CP2	3H 04	2.08	10CP2
	BAROMETER VALUE	2L 29	4.45	10CP2	2L 07	12.66	10CP2
	INPUT	2L 20	14.74	10CP3			10
020028	BAROMETER VALUE -	2L 27	5.91	10CP1	2L 34	7.26	10CP1
	29.86	2L 36	8.61	10CP1	2L 33	9.96	10CP2
		2L 31	11.31	10CP1			10

020029	REVIEW NEW DATA ON INITIALIZE PAGE FOR ACCURACY	2L	07	0	10CP3 10 10					10 10 10	
020030	SELECT ATC CLEARANCE PAGE	2L	64	0	10CP1 10	2L	08	2.03	10CP2 10		
020031	ATC CLEARANCE PAGE-SID INPUT	2L	51	0	10CP2	2L	08	8.35	10CP1		
		2K	14	10.69	10CP1	2L	20	12.96	10CP3		
020032	SID NAME - SOC9L	2L	55	1.46	10CP1	2L	51	2.81	10CP1		
		2L	39	4.16	10CP1	2L	34	5.54	10CP1		
		2L	48	6.89	10CP2				10		
020033	DETERMINE NAME OF EXIT WAYPOINT ON SID SOC9L	2K	14	0	10CP1 10 10					10 10 10	
020034	ATC CLEARANCE PAGE-WAYPOINT INPUT	2L	37	0	10CP2	2L	08	6.96	10CP1		
		2L	20	9.30	10CP3				10		
020035	WAYPOINT NAME - SID3	2L	55	1.46	10CP1	2L	45	2.81	10CP2		
		2L	40	4.16	10CP2	2L	28	5.48	10CP1		
020036	ATC CLEARANCE PAGE-AIRWAY INPUT	2L	38	0	10CP2	2L	08	8.32	10CP1		
		2K	17	10.66	10CP1	2L	20	12.93	10CP3		
020037	AIRWAY NAME - 816R	2L	33	1.48	10CP1	2L	26	2.92	10CP3		
		2L	31	4.27	10CP1	2L	54	5.62	10CP1		
020038	DETERMINE NAME OF ENTRANCE WPT ON STAR JASON01	2K	17	0	10CP1 10 10					10 10 10	
020039	ATC CLEARANCE PAGE - STAR INPUT	2L	52	0	10CP2	2L	08	7.08	10CP1		
		2K	17	9.42	10CP1				10		
020040	STAR NAME - WOOD	2L	59	1.46	10CP2	2L	51	2.92	10CP1		
		2L	51	4.27	10CP1	2L	40	5.62	10CP3		
020041	CHANGE MFD MAP SCALE TO 32 NM	2K	10	0	10CP4 10					10 10	
020042	SELECT FLIGHT PLAN PAGE 2	2L	65	0	10CP1	2L	09	2.03	10CP2		
		2L	65	4.11	10CP3	2L	10	5.46	10CP2		
020043	REVIEW PROVISIONAL FLIGHT PLAN DATA	2L	09	0	10CP2	2K	17	2.08	10CP1		
		2L	24	4.35	10CP2				10		
020044	ACCEPT PROVISIONAL FLIGHT PLAN	2L	21	0	10CP4	2L	09	1.52	10CP2		
		2K	17	3.6	10CP1	1P020007		5.87	10CP1		
		1P	17	5.87	10 P4				10		
020045	BEFORE START CHECK-LIST - 5A	8B	03	0	10CP1	1P020008		2	10CP1		
		1P	10	2	10 P1	1P020009		3	10CP1		
		1P	06	3	10 P3	8B	03	4	10CP1		
		1P020010		6	10CP1	1P	10	6	10 P4		
		1P020009		6.6	10CP1	1P	06	6.6	10 P3		
		8B	03	7	10CP1	1P020011		9	10CP1		
		1P	10	9	10 P1				10		
		1P020009		10	10CP1	1P	06	10	10 P3		
		8B	03	11	10CP1	1P020012		13	10CP1		
		1P	10	13	10 P1	1P020013		14	10 P1		
		1P	08	14	10CP3				10		
020046	CONTACT GROUND CONTROL FOR PUSHBACK CLEARANCE	1Q	06	0	10CP2	1Q	24	1.45	10CP1		
		1Q	15	1.45	10CP4	1P010070		1.45	10CP1		
		1P010071		5.45	10CP1	1Q	16	9	10 *3		
		1P010072		9	10 *1	1P010075		13.50	10 *1		
		1Q	24	15	10CP2	1Q	15	15	10CP3		
		1P010064		15	10CP1				10		
020047	WAYPOINT NAME - AGE1	2L	37	1.46	10CP1	2L	43	2.81	10CP2		
		2L	41	4.27	10CP1	2L	26	5.62	10CP3		
030001	ENGINE NO.2 START-UP	1A	25	0	10 P3	1P030002		2.35	10 P1		
		1F	11	2.35	10 P2	1F	09	5	10 P2		
		1P030001		5	10 P1	7M	05	7	10 P3		
		7F	24	10.54	10 P3	7F	22	20.54	10 P2		

	7M	09	23.06	10	P1	7F	17	25.57	10	P2
	7F	32	27.82	10	P1	7F	34	29.84	10	P1
	7M	15	31.63	10	P1	7F	24	34.15	10	P2
	7F	32	36.67	10	P1	7F	34	38.69	10	P1
	7F	30	40.71	10	P1	7F	22	42.95	10	P1
	7F	17	44.97	10	P1	1F	11	2.35	10	CP2
	7F	24	12	10	CP2	7F	22	16	10	CP1
	7F	17	25	10	CP1	7F	32	28	10	CP1
	7F	34	31	10	CP1	7F	24	35	10	CP1
	7F	32	37.02	10	CP1	7F	34	39.04	10	CP1
	7F	30	41.06	10	CP1	7F	22	43.30	10	CP1
	7F	17	45.32	10	CP1	7F	24	47.37	10	CP1
	7F	32	49.39	10	CP1	7F	34	51.41	10	CP1
030002 ENGINE NO.1 START-UP	1A	25	0	10	P3	1F	11	1.45	10	P2
	1P030003		1.45	10	P1	1F	09	5	10	P2
	1P030001		5	10	P1	7M	02	7	10	P3
	7F	23	10.54	10	P3	7F	21	20.54	10	P2
	7M	07	23.06	10	P1	7F	09	25.57	10	P1
	7F	31	27.62	10	P1	7F	33	29.64	10	P1
	7M	16	31.66	10	P1	7F	23	32.96	10	P2
	7F	31	35.48	10	P1	7F	33	37.50	10	P1
	7F	25	39.52	10	P1	7F	21	41.76	10	P1
	7F	09	43.78	10	P1	7F	23	11	10	CP3
	7F	21	21	10	CP2	7F	09	23.52	10	CP1
	7F	31	25.57	10	CP1	7F	33	27.59	10	CP1
	7F	23	29.61	10	CP1	7F	32	31.63	10	CP1
	7F	31	33.65	10	CP1	7F	25	35.67	10	CP1
	7F	21	37.91	10	CP1	7F	09	39.93	10	CP1
030003 AFTER START PROC.	7B	32	0	10	P1	7B	42	1.72	10	P1
	7B	31	3.44	10	P1	7B	41	4.03	10	P1
	7J	24	4.62	10	P1	7J	26	7.37	10	P2
	7J	28	8.79	10	P1	7J	30	9.92	10	P1
	7J	32	11.05	10	P1	7J	34	12.18	10	P1
	7J	36	13.32	10	P1	7J	38	14.46	10	P1
	7Q	10	15.6	10	P1	7Q	13	17.15	10	P2
	7Q	16	18.27	10	P1	7Q	19	19.39	10	P1
	7Q	22	20.59	10	P1	7Q	25	21.03	10	P1
	7Q	28	22.75	10	P1	7Q	31	23.87	10	P1
	7D	05	24.99	10	P4	7D	19	27.68	10	P2
	7D	18	29.2	10	P2	7D	34	30.73	10	P1
	7L	11	31.01	10	P3	7E	15	33.58	10	P3
	7M	03	36.64	10	P4	7M	06	38.38	10	P4
	7M	08	40.12	10	P1	7M	10	43.12	10	P2
030004 AFTER START CHECK-LIST - 1	1P030004		0	10	P1	1P	02	0	10	CP1
	8B	02	1.5	10	CP3	8B	03	7.4	10	CP1
	1P030005		9.4	10	CP1	1P	11	9.4	10	P2
	7B	31	10.2	10	P2	7B	41	11.12	10	P1
	1P030006		12	10	P1	1P	08	12	10	CP3
	8B	03	13.5	10	CP1	1P030007		15.5	10	CP1
	1P	11	15.5	10	P3	7J	45	16.4	10	P1
	7J	46	17.87	10	P1	1P010014		19	10	P1
	1P	04	19	10	CP4	8B	03	19.5	10	CP1
	1P030008		21.50	10	P1	1P	11	21.5	10	P3
	1P030009		22.40	10	P1	1P	06	22.4	10	CP3
030005 AFTER START CHECK-LIST - 2	8B	03	0	10	CP1	1P030010		2	10	CP1
	1P	10	2	10	P3	7D	10	3.6	10	P1
	7D	22	4.6	10	P1	7E	35	5.6	10	P1
	1F030011		6.3	10	P1	1P	09	6.3	10	CP1
	8B	03	2.6	10	CP1	1P030012		9.6	10	CP1
	1P	11	9.6	10	P3	7M	11	10.5	10	P1

		1P030013		11.1	10 P1	1P	08		11.1	10CP4
030006	AFTER START CHECK-	8B	03		0	10CP1	1P030014			2	10CP1
	LIST - 3	1P	11		2	10 P2	7L	20		3	10 P1
		1P030015		3.75	10 P1	1P	06		3.75	10CP4
		8B	03	4.25	10CP1	1P030016			6.25	10CP1
		1P	10	6.25	10 P1	7M	14		2.25	10 P1
		1P030017		8.55	10 P1	1P	06		8.55	10CP4
		8B	03	9.05	10CP1	1P030018			11.05	10CP1
		1P	12	11.05	10 P2	8B	08		12.45	10CP1
030007	ENGINE INSTRUMENT	7F	25		0	10CP4	7F	30		0	10CP3
	SCAN	7F	21		.44	10CP3	7F	22		.44	10CP3
		7F	31		.88	10CP2	7F	32		.88	10CP2
		7F	23	1.32	10CP4	7F	24		1.32	10CP4
		7F	33	1.76	10CP2	7F	34		1.76	10CP2
		7F	09	2.2	10CP3					10
		7F	10	2.64	10CP4	7F	18		2.64	10CP4
		7F	11	3.08	10CP3	7F	19		3.08	10CP4
		7F	12	3.52	10CP4	7F	20		3.52	10CP4
040001	TAXI PROCEDURE - 1	1A	20		0	10 P1	1A	12		0	10 P1
	-TAXI CLEARANCE	1P040035			0	10 P1	1A	14		5	10 *3
		1P040036			5	10 *1	1P040037			8.5	10 *1
		1A	10		13	10 P2	1A	11		13	10 P1
		1P040038			13	10 P1	1P040039			16.75	10 P1
040002	TAXIPROCEDURE - 1	8A	02		0	10 P2	4D	52		0	10 P1
	-TAXI FROM GATE TO	4M	02		0	10 P3	4B	03		1	10 P4
	TAXIWAY D	1P070011			5	10 P1	1P	10		5	10CP1
		4E	09		6	10CP3	4E	15		10	10CP3
		4E	16		13	10CP1	3V	18		20	10CP1
		3V	26	22.07	10CP1	7A	28			26	10CP1
		7A	33	28.28	10CP1	4A	21			30	10CP1
		4A	22		32	10CP1					10
		4M	01		15	10 P2	4A	58		15	10 P1
040003	TAXI PROCEDURE - 0	8A	02		0	10 P3	4M	02		0	10 P4
	-TURN ONTO TAXIWAY	4B	03		10	10 P1					10
	D AND TAXI TO HOLD	4D	28	1	09	10 P2	4B	08	1	12	10 P1
	POINT SHORT OF					10					10
	RWY 08					10					10
040004	HOLD SHORT OF RWY 08					10					10
	FOR DEPARTING AND					10					10
	ARRIVING TRAFFIC					10					10
040005	TAXI PROCEDURE - 4	1A	14		0	10 P4	1P040001			0	10 *1
	-CROSS RWY 08 AND	1A	10		4	10 P3	1A	11		4	10 P3
	TAXI TO HOLD POINT	1P040003			4	10 P1	4D	52		8	10 P1
	AT TAXIWAY C	4B	03		8	10 P2	8A	02		8	10 P3
	JUNCTION	4M	03		8	10 P1	1A	15		30	10 *1
		1P040030			30	10 *1	1P040031			33	10 *1
		1A	11		35	10 P3	1P040003			35	10 P1
		4D	28		53	10 P2	4B	03		53	10 P1
040006	HOLD AT JUNCTION OF					10					10
	TAXIWAYS C AND D FOR					10					10
	TRAFFIC TO CLEAR					10					10
040007	TAXI PROCEDURE - 5	4D	52		0	10 P1	4B	03		1	10 P2
	-TAXI FROM JUNCTION	8A	04		0	10 P1	4N	03		4	10 P2
	TO TAXIWAY L	1A	15		30	10 *2	1P040032			30	10 *1
		1P040032			33	10 *1	1A	25		35	10CP4
		1A	12		35	10CP2	1P040034			35	10CP1
		1B	11		40	10CP3	4D	28	1	44	10 P2
		4B	03	1	44	10 P2					10
040008	TAXI PROCEDURE - 6	4M	01		0	10 P4	8A	04		0	10 P2
	-TURN ONTO TAXIWAY L	4B	03		10	10 P2	4M	03		10	10 P3

	AND TAXI INTO RWY	4D	28	1	40	10 P2	4B	03	1	40	10 P2		
	9L HOLD AREA	4M	01	1	40	10 P4	4D	27	1	50	10 P1		
040010	TAXI PROCEDURE - 1A	1Q	24		0	10CP3	1Q	28		0	10CP1		
	-TAXI CLEARANCE	1P040035			0	10CP1	1Q	16		4	10CP2		
		1P040036			4	10CP1	1P040037			7.5	10CP1		
		1Q	14		11	10CP3	1Q	15		11	10CP1		
		1P040038			11	10CP1	1P040039			14.75	10CP1		
040011	TAXI PROCEDURE - 4A	1Q	16		0	10CP4	1P040001			0	10CP1		
		1Q	23		4	10CP1	1Q	15		4	10CP3		
		1P040003			4	10CP1	4D	52		8	10 P1		
		4B	03		8	10 P2	8A	02		8	10 P4		
		4M	03		8	10 P1	1Q	30		30	10CP1		
		1P040030			30	10CP1	1P040031			33	10CP1		
		1Q	23		35	10CP1	1Q	15		35	10CP3		
		1P040003			35	10CP1	4D	28		53	10 P2		
		4B	03		53	10 P1					10		
040012	TAXI PROCEDURE - 5A	4D	52		0	10 P1	4B	03		1	10 P2		
		8A	04		0	10 P1	4M	03		4	10 P2		
		1Q	30		30	10CP2	1P040032			30	10CP1		
		1P040033			33	10CP1	1Q	24		35	10CP4		
		1Q	28		35	10CP2	1P040034			35	10CP1		
		1R	12		40	10CP2	4D	28	1	44	10 P2		
		4B	03	1	44	10 P2					10		
070001	BEFORE TAKEOFF	1P070012			0	10 P1	1P	02		0	10CP1		
	CHECKLIST - 1	8B	02		1.5	10CP3	8B	03		8	10CP1		
		1P070013			10	10 P1	1P	10		10	10 P1		
		1P070014			11	10CP1	1P	07		11	10CP4		
		8B	03		12	10CP1	1P070015			14	10 P1		
		1P	10		14	10 P1	1P070014			15	10 P1		
		1P	07		15	10CP4	8B	03		16	10CP1		
		1P070016			18	10CP1	1P	10		18	10 P4		
		4E	16		18.6	10CP1	4N	05		21.1	10CP2		
		1P070017			22.5	10CP1	1P	06		22.5	10CP3		
070002	BEFORE TAKEOFF	8B	03		0	10CP1	1P070018			2	10 P1		
	CHECKLIST - 2	1P	10		2	10 P3	4G	03		3.2	10 P1		
		1P070029			5.7	10CP1	1P	09		5.7	10CP2		
		8B	03		7.1	10CP1	1P070019			9.1	10 P1		
		1P	10		9.1	10 P1	1P070020			10.1	10CP1		
		1P	07		10.1	10CP2	8B	03		11	10CP1		
		1P070021			13	10CP1	1P	10		13	10 P1		
		1P070022			14	10 P1	1P070023			18.5	10 P1		
		1P	09		14	10CP3	1P070024			24	10CP1		
070003	BEFORE TAKEOFF	8B	03		0	10CP1	1P070025			2	10CP1		
	CHECKLIST - 3	1P	10		2	10 P1	1N	03		3.5	10CP1		
		6A	11		5.43	10CP1	1P070026			7.8	10CP1		
		1P	06		7.8	10 P4	8B	03		8.5	10CP1		
		1P070027			9.5	10CP1	1P	02		9.5	10 P1		
		7G	17		11	10 P1	1P070026			13.2	10 P1		
		1P	06		13.2	10CP4	8B	03		14	10CP1		
		1P030018			16	10CP1	1P	12		16	10 P3		
		8B	08		17	10CP1					10		
070004	CLEARED TO TAXI ONTO	1B	14		0	10CP1	1B	15		0	10CP1		
	RUNWAY 9L	1P070005			0	10CP1	1P070006			3.6	10CP1		
		1B	18		6	10 *2	1P070007			6	10 *1		
		1B	14		9	10CP2	1B	15		9	10CP2		
		1P070008			9	10CP1	4D	52		13	10 P1		
		4B	03		14	10 P2	4M	01		14	10 P4		
		4J	03		24	10 P1	4D	28		27	10 P1		
		[illegible]	08		10	10 P2					10		
070005	RECEIVE TAKEOFF	1B	18		0	10 P2	1P070009			0	10 *1		

	CLEARANCE	1B	14	3	10 P2	1B	15	3	10 P3
		1P070010		3	10 P1				10
070006	TAKEOFF ROLL	8A	04	0	10 P4	4A	64	0	10 P1
		4M	03	0	10 P1				10
		4B	05	0	10 P1	7F	29	2	10 P2
		7F	34	2.76	10 P2	4B	06	5	10 P1
		7F	27	8	10CP2	7F	30	8	10CP3
		4B	07	10	10CP1	3A	01	12	10CP4
					10	3A	01	20	10 P1
		3A	09	20	10CP3	1P070001		20	10CP1
		1P	12	20	10 P4	3A	03	25	10CP4
		1P070002		27	10CP1	1P	11	27	10 P3
070007	ROTATION, TAKEOFF, AND GEAR UP	3A	01	0	10CP3	3A	03	0	10CP1
		1R070002		0	10CR1	3A	03	.9	10CR3
		1P070003		.9	10CP1	1P	04	0	10 P3
		4A	24	2.0	10 P2	3A	01	2.37	10CP4
		3A	10	2.6	10 P1	3L	02	3.2	10 P1
		3H	06	3.8	10 P2	3R	10	4.4	10 P4
		1P070034		4.5	10CP1	1P	12	4.5	10 P4
		1P070004		5.6	10 P1	1P	12	5.6	10CP4
		4D	01	6.0	10CP2	4D	07	12.0	10CP1
		4D	09	12.54	10CP1	1P070033		13.08	10CP1
		1P	12	13.08	10 P4	4D	02	13.08	10CP2
070008	SET HEADING BUGS TO 090 DEG AND COURSE BUGS TO 105 DEG	3S	11	0	10 P1	3S	12	5	10 P2
		3S	11	0	10CP1	3S	12	5	10CP2
					10				10
070009	SET EADI AND MFD FOR TAKEOFF	2K	01	0	10CP4	2K	25	2.67	10CP1
		2K	38	4.05	10CP3	2K	07	5.43	10CP3
		2J	32	9.66	10CP1	2J	15	11.81	10CP1
		2K	14	7.39	10CP1				10
070010	TAKEOFF ROLL - A	8A	04	0	10 P4	4B	05	0	10 P1
		7F	29	3	10 P2	7F	34	3	10 P2
		4B	06	5	10 P1	4A	64	0	10 P1
					10	3A	01	20	10 P1
		7F	27	8	10CP2	7F	30	8	10CP3
		4B	07	10	10CP1	3A	01	12	10CP4
		3A	09	20	10CP3	1P070001		20	10CP1
		1P	12	20	10 P4	3A	03	25	10CP4
		1P070002		27	10CP1	1P	11	27	10 P3
070011	ROTATION, FLARE, AND GEAR UP - A	3A	06	0	10CP4	1P070003		1	10CP1
		1P	11	1	10 P3	4A	24	2	10 P2
		3A	01	4	10 P2	3L	01	4	10 P4
		3L	01	10	10CP4	4D	01	10	10CP2
		4D	07	15	10CP2	4D	09	16	10CP2
070012	CLEARED TO TAXI ONTO RUNWAY 9L - A	1R	23	0	10CP2	1R	36	0	10CP1
		1P070005		0	10CP1	1P070006		36	10CP1
		1R	32	6	10CP1	1P070007		6	10CP1
		1R	23	9	10CP3	1R	36	9	10CP2
		1P070008		9	10CP1	4D	52	13	10 P1
		4B	03	14	10 P2	4M	01	14	10 P4
		4B	03	24	10 P1	4D	28	18.5	10 P1
		8A	04	10	10 P4				10
070013	WAIT FOR TAKEOFF CLEARANCE				10				10
					10				10
070014	RECEIVE TAKEOFF CLEARANCE	1R	32	0	10 P1	1P070009		0	10 P1
		1R	23	3	10 P4	1R	36	3	10 P3
		1P070010		3	10 P1				10
070015	BEFORE TAKEOFF CHECKLIST - 3A	8B	03	0	10CP1	1P070030		2	10CP1
		1P	10	2	10 P2	1N	03	2.7	10CP1
		1P070026		4.63	10CP1	1P	06	4.63	10 P4

		8B	03	5.13	10CP1	1P070031		7.13	10CP1
		1P	12	2.13	10 P4	2H	02	8.23	10 P1
		1P070032		9.28	10 P1	1P	18	9.28	10CP1
		8B	03	9	10CP1	1P070027		11	10CP1
		1P	02	11	10 P1	7G	17	12.5	10 P1
		1P070026		14.7	10 P1	1P	06	14.7	10CP4
		8B	03	15.2	10CP1	1P070027		17.2	10CP1
		1P	12	17.2	10 P3	8B	08	17.2	10CP1
090001	CONTACT DEPARTURE CONTROL 125.7	1B	18	0	10 *3	1P090001		0	10 *1
		1P090024		4.50	10 *1	1B	14	6	10CP4
		1B	15	6	10CP4	1P090002		6	10CP1
		1B	07	8	10CP3	1B	08	8	10CP2
		1B	09	10.88	10CP1	1B	06	13	10CP1
		1B	13	14.5	10CP3	1B	16	14.5	10CP1
		1P090003		14.5	10CP1	1B	18	18	10 *4
		1P090005		18	10 *1	1N	07	21.5	10CP1
		1N	18	23.65	10CP1	1B	19	28	10 *1
		1P090006		28	10 *1	1B	13	32	10CP4
		1B	16	32	10CP2	1P090007		32	10CP1
090002	CONTROL AIRCRAFT - A (10 SEC PROC)	4A	64	0	10 P2 10	8A	05	0	10 P1 10
090003	FLIGHT INSTRUMENT SCAN - A	3R	10	0	10 P4	3L	02	0	10 P1
		3A	10	0	10 P1	3S	01	0	10 P2
090004	CROSS RWY 27R MIDDLE MARKER, TURN TO HDG 105	3V	13	0	10 P1	4A	28	0	10 P2
		3S	12	5	10 P2 10				10 10
090005	COMPLETE TURN - ON HDG 105				10 10				10 10
090006	RETRACT FLAPS TO FLAPS 1. SET CLIMB THRUST.	3A	01	0	10 P3	1P090022		2.37	10 P1
		1P	10	2.37	10CP4	4E	07	3	10CP1
		4E	15	5.69	10CP3	4N	03	7.92	10CP2
		4N	04	10	10CP2	1P090063		11	10CP1
		1P	07	11	10 P4	1B	03	12	10CP1
		7F	25	15	10 P4	7F	30	15	10 P3
090007	REACH 3000 FT ABOVE GROUND LEVEL. BEGIN ACCELERATION TO 250 KIAS. MAINTAIN 500-1000 FT/MIN CLIMB	3H	02	0	10 P1 10 10 10 10	4B	03	2	10 P1 10 10 10 10
090008	CONTROL AIRCRAFT - B (5 SEC PROC)	4A	64	0	10 P3 10	8A	05	0	10 P2 10
090009	FLIGHT INSTRUMENT SCAN - B	3R	56	0	10 P1	3L	02	0	10 P2
		3A	10	0	10 P2	3S	01	0	10 P3
090010	RECEIVE INSTRUCTIONS TO TURN TO HDG 070 TO INTERCEPT J37	1B	19	0	10 *2	1P090025		0	10 *1
		1P090026		3	10 *1	1B	24	7	10CP1
		1B	16	7	10CP3	1P090027		7	10CP1
		1P090028		11	10CP1	4A	28	7	10 P3
		3S	12	7	10 P2				10
090011	RETRACT FLAPS TO FLAPS 0.	1P090022		2.37	10 P1				10
		1P	10	2.37	10CP4	4E	06	3	10CP3
		4E	15	5.69	10CP3	4N	03	7.92	10CP2
		4N	04	10	10CP2	1P090064		11	10CP1
		1P	07	11	10 P4	1P	03	12	10 P1
		7F	25	13	10 P4	7F	30	13	10 P3
090012	COMPLETE TURN - ON HDG 070				10 10				10 10
090013	REACH 250 KIAS				10				10
090014	AFTER TAKEOFF CHECK-LIST	1P090017		0	10 P1	1P	10	0	10CP2
		8B090001		1.2	10CP1	1P090018		3.2	10 P1
		7M	12	4.1	10CP1	7M	13	6.51	10CP2

			1P090019	7.29	10CP1	1P	06	7.29	10 P4
			8B090001	8	10CP1	1P090020		10	10CP1
			1P 11	10	10 P3	4D	08	11	10CP2
			4D 11	11.72	10CP1	1P090021		12.5	10CP1
			1P 06	12.5	10 P3	8B090001		13.5	10CP1
			1P090022	15.5	10CP1	1P	10	15.5	10 P4
			1P090021	16.5	10CP1	1P	06	16.5	10 P3
			8B090001	18	10CP1	1P090023		20	10CP1
			1P 09	20	10 P4				10
090015	RECEIVE CLEARANCE TO CLIMB TO 12000 FT	1B 18		0	10 *4	1P090029		0	10 *1
		1B 24		4	10CP2	1B	16	4	10CP4
		1P090030		4	10CP1	1P	04	4	10 P1
090016	CONTROL AIRCRAFT - C (SEC PROC)	4A 64		0	10 P4	8A	05	0	10 P3
					10				10
090017	FLIGHT INSTRUMENT SCAN - C	3R 56		0	10 P2	3L	02	0	10 P3
		3A 10		0	10 P3	3S	01	0	10 P4
090018	CONTROL AIRCRAFT - D (60 SEC PROC)	4A 65		0	10 P1	8A	05	0	10 P4
					10				10
090019	FLIGHT INSTRUMENT SCAN - D	3R 56		0	10 P3	3L	02	0	10 P4
		3A 10		0	10 P4	3S	15	0	10 P1
090020	REACH 10000FT. BEGIN TURN TO HDG 053.	3S 01		0	10 P2	4A	28	0	10 P4
		8A 08		0	10 P4				10
					10				10
090021	SET CI COURSE CURSOR TO 053 DEG.	3S 12		0	10 2				10
					10				10
090022	TURN COMPLETED - ON HDG 053. BEGIN ACCELERATION TO 280 KIAS	4B 03		0	10 P2	7F	25	0	10 P2
		7F 30		2	10 P3	3A	01	2	10 P1
					10				10
					10				10
090023	HANDOFF TO ATLANTA EAST DEPARTURE SECTOR. -123.95	1B 19		0	10 *3	1P090008		0	10 *1
		1P090009		3.1	10 *1	1B	26	7	10CP1
		1B 17		7	10CP1	1P090010		7	10CP1
		1P090011		10.5	10CP1	1B	01	15	10CP2
		1B 02		15	10CP2	1B	03	17.9	10CP1
		1B 28		21	10CP1	1B	17	21	10CP2
		1P090012		21	10CP1	1P090013		25.50	10CP1
		1B 18		28	10 *4	1P090014		28	10 *1
		1N 07		32	10CP1	1B	18	36	10 *4
		1P090015		36	10 *1	1B	24	40	10CP4
		1B 16		40	10CP1	1P090016		40	10CP1
090024	TUNE COMPANY AND EMERGENCY FREQ@S	1A 01		0	10CP3	1A	02	0	10CP2
		1A 03		2.98	10CP1	1A	07	6	10CP4
		1A 08		6	10CP3	1A	09	8.01	10CP1
090025	RECEIVE NOTICE OF CONFLICTING TRAFFIC	1B 19		0	10 *4	1P090031		0	10 *1
		1P090032		3.75	10 *1	1P090033		8.75	10 *1
					10	8A	03	10	10CP1
		1B 25		12	10CP1	1B	17	12	10CP2
		1P090034		12	10CP1	1P090035		16	10CP1
090026	BEGIN 500 FT/MIN RATE OF CLIMB				10				10
					10				10
090027	LEVEL OFF AT 18000				10				10
090028	RECEIVE CLEARANCE TO RESUME CLIMB TO CRUISE ALTITUDE	1B 19		0	10 *2	1P090036		0	10 *1
		1P090037		3	10 *1	1B	25	7	10CP2
		1B 17		7	10CP3	1P090038		7	10CP1
		1P090039		10.5	10CP1				10
090029	CLIMB THRU 23000 FT. HANDOFF TO SPARTANBURG HIGH SECTOR -133.7	3H 02		0	10CP1	1B	25	2	10CP3
		1B 17		2	10CP4	1P090045		2	10CP1
		1P090046		5.7	10CP1	1B	19	9	10 *2
		1P090041		9	10 *1	1P090042		12.5	10 *1
		1B 25		17	10CP3	1B	17	17	10CP4

		1P090043	17	10CP1	1P090044	20.7	10CP1		
		1B 07	23	10CP3	1B 08	23	10CP2		
		1B 09	25.88	10CP1	1B 06	28	10CP1		
		1B 28	30	10CP2	1B 17	30	10CP4		
		1P090045	30	10CP1	1P090046	33.7	10CP1		
		1B 19	38	10 *2	1P090047	38	10 *1		
		1P090048	41.7	10 *1	1N 07	45	10CP1		
		1B 25	47	10CP2	1B 17	47	10CP3		
		1P090049	47	10CP1			10		
090030	BEGIN MACH 0.65 SPEED SCHEDULE	3F 01	0	10 P3	4B 03	0	10 P2		
				10			10		
090031	CLIMB THRU 28000 FT. REPORT TO ATC.	3H 02	0	10CP4	1B 25	3	10CP2		
		1B 17	3	10CP3	1P090050	3	10CP1		
		1B 20	9	10 *1	1P090051	9	10 *1		
		1P090052	12.5	10 *1	1B 25	15	10CP2		
		1B 17	15	10CP3	1P090053	15	10CP1		
090032	REDUCE RATE OF CLIMB TO 500 FT/MIN	4B 03	0	10 P3	3L 01	0	10 P4		
				10			10		
090033	TUNE AND MONITOR SPARTANBURG VOR -115.7	8B 06	0	10CP2	8B090002	6	10CP1		
		5V 01	11	10CP3	5V 02	11	10CP2		
		5V 03	13.93	10CP1	5V 11	15.91	10CP1		
		5V 12	18.20	10CP2	1P090065	19.6	10CP1		
		1P 12	19.6	10 P1	5H 03	19.6	10CP1		
		5G 05	22.5	10 P1			10		
090034	LEVEL OFF AT 29000 FT. ACCELERATE TO LONG RANGE CRUISE SPEED -MACH 0.67	3H 06	0	10 P2	4A 64	0	10 P2		
				10			10		
				10	4B 03	12	10 P2		
		3F 01	12	10 P3	4A 64	10	10 P3		
		4B 03	20	10 P2	3F 01	20	10 P3		
090035	REACH MACH 0.67	3F 01	0	10 P3	4B 03	0	10 P2		
090036	CONTROL AIRCRAFT - E (0 SEC PROC)	4A 65	0	10 P2	8A 06	0	10 P1		
				10			10		
090037	FLIGHT INSTRUMENT SCAN - E	3R 56	0	10 P4	3L 03	0	10 P3		
		3A 11	0	10 P3	3S 15	0	10 P2		
090038	CONTROL AIRCRAFT - F (120 SEC PROC)	4A 65	0	10 P3	8A 06	0	10 P2		
				10			10		
090039	FLIGHT INSTRUMENT SCAN - F	3R 57	0	10 P1	3L 03	0	10 P2		
		3A 11	0	10 P2	3S 15	0	10 P3		
090040	TUNE TO GORDONVILLE VOR -115.6	8B 06	0	10CP2	8B090003	6	10CP1		
		5U 01	12	10CP3	5U 02	12	10CP3		
		5U 03	15	10CP2	5U 11	18	10CP2		
		5U 12	20	10CP2	1P090066	20	10CP1		
		1P 12	20	10 P1	5G 04	25	10 P1		
		5H 02	22.44	10CP1			10		
090041	CROSS SPARTANBURG VOR. TURN TO HDG 047	3S 04	0	10 P2	4A 28	0	10 P1		
090042	TURN COMPLETE - ON HDG 047.			10			10		
				10			10		
090043	RECEIVE CLEARANCE TO CLIMB TO 33000 FT	1B 19	0	10 *2	1P090054	0	10 *1		
		1P090055	3.5	10 *1	1B 25	8	10CP3		
		1B 17	8	10CP4	1P090056	8	10CP1		
		1P090057	12	10CP1	1B 01	15	10CP2		
		1B 02	15	10CP2	1B 03	17.9	10CP1		
		1B 05	20	10CP1	1B 25	22	10CP3		
		1B 17	22	10CP4	1P090058	22	10CP1		
		1P090059	26	10CP1	1B 18	30	10 *4		
		1P090060	30	10 *1	1N 07	33.5	10CP1		
		1B 20	36	10 *2	1P090061	36	10 *1		
		1P090062	39.5	10 *1	1B 14	42	10CP4		
		1B 15	42	10CP4	1P090002	42	10CP1		

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090044	BEGIN CLIMB TO 33000 FT.	4A	29		0	10 P2	3L	02		0	10 P1
		3R	10		0	10 P4					10
090045	CLIMB THRU 32000 FT. BEGIN 500 FT/MIN RATE OF CLIMB.	3H	02		0	10CP1	1P090067			2	10CP1
		1P	11		2	10 P4					10
090046						10					10
090047						10					10
090048	FLIGHT INSTRUMENT SCAN -A2	2J	02		0	10 P3	3L	02		0	10 P3
		3A	10		0	10 P3	2K	14		0	10 P3
		2K	46		0	10 P2	2K	33		0	10 P2
090049	CONTROL AIRCRAFT THRU TOUCHDOWN	8A	06		0	10 P3	4A	68		0	10 P1
						10					10
090050	CONTROL AIRCRAFT -A1 -ATT CWS MODE	4A	68		0	10 P2					10
						10					10
090051	FLIGHT INSTRUMENT SCAN -A1	2J	02		0	10 P2	3L	02		0	10 P1
		3A	10		0	10 P1	2K	14		0	10 P2
		2K	46		0	10 P1	2K	33		0	10 P1
090052	CROSS WPT SID1	2K	14		0	10 P1					10
090053	TURN TO HEADING 105					10					10
090054	HEADING CHANGE PROC. -ATT CWS	4A	71		0		P1	2K	14	0	P2
		2K	33		0	30	P1	3L	02	0	30 P1
090055	COMPLETE TURN - ON HDG 105					10					10
						10					10
090056	ENGAGE VERT PATH GUIDANCE MODE	2H	07		0	10 P1	2H	08		1.42	10 P1
		2H	35		2.76	10 P1	2H	36		4.13	10 P1
		2H	39		4.91	10 P1	2H	40		6.27	10 P1
		2K	14		7.05	10 P2					10
090057	CROSS WPT SID2. AGCS TURNS AIRCRAFT TO HDG 088.					10					10
						10					10
						10					10
090058	REACH 10000 FT. BEGIN ACCELERATION TO 280 KIAS.	4B	07		0	10 P2	3F	01		1	10 P1
		7F	25		3	10 P1	7F	30		5.24	10 P3
						10					10
090059	HANDOFF TO ATLANTA CENTER EAST DEPARTURE CONTROL-123.95	1R	16		0	10 *1	1P090069			0	10 *1
		1P090070			4	10 *1	1R	23		6	10CP1
		1R	15		6	10CP1	1P090073			6	10CP1
		1R	01		10	10CP3	1R	02		10	10CP2
		1R	03		12.93	10CP2	1R	05		15	10CP2
		1R	14		17	10CP3	1R	15		17	10CP2
		1P090093			17	10CP1	1P090094			21	10CP1
		1R	16		23	10 *2	1P090014			23	10 *1
		1N	07		27	10CP1	1R	16		30	10 *2
		1P090015			30	10 *1	1R	14		34	10CP4
		1R	15		34	10CP3	1P090016			34	10CP1
090060	CONTACT ATLANTA DEPARTURE CONTROL -125.7	1R	32		0	10 *2	1P090001			0	10 *1
		1P090024			4.5	10 *1	1R	24		6	10CP1
		1R	36		6	10CP4	1P090002			6	10CP1
		1R	07		8	10CP3	1R	08		8	10CP4
		1R	09		10.9	10CP2	1R	06		12.48	10CP2
		1R	14		14	10CP4	1R	15		14	10CP3
		1P090003			14	10CP1	1R	16		18	10 *2
		1P090005			18	10 *1	1N	07		22	10CP1
		1N	08		22	10CP1	1R	16		25	10 *3
		1P090006			25	10 *1	1R	24		28.5	10CP2
		1R	37		28.5	10CP1	1P090007			28.5	10CP1
090061	TUNE COMPANY FREQ	1Q	01		0	10CP4	1Q	02		0	10CP2
		1Q	03		3	10CP2	1Q	12		5	10CP2
090062	TUNE EMERGENCY FREQ.	1Q	07		0	10CP4	1Q	08		0	10CP4
		1Q	09		2.97	10CP2					10
090063	CLIMB THRU 18000 FT.	3H	04		0	10CP4	3H	03		0	10CP1

	RESET ALTIMETER BARO	1P090095		0	10CP1	1P	02		0	10	P3
	VALUE TO 29.92	3H	04	3	10	P4	3H	03	3	10	P4
090064	CLIMB THRU 21000 FT.	3H	02	0	10CP3					10	
090065	HANDOFF TO SPARTAN-	1R	24	0	10CP4	1R	15		0	10CP4	
	BURG HIGH SECTOR	1P090040		0	10CP1	1R	16		5	10	*4
	-133.7	1P090074		5	10	*1	1P090075		9	10	*1
		1R	24	10	10CP3	1R	37		10	10CP2	
		1P090076		10	10CP1	1R	07		14	10CP3	
		1R	08	14	10CP4	1R	09		16.9	10CP2	
		1R	06	19	10CP2	1R	25		20.47	10CP1	
		1R	32	20.47	10CP3	1P090077			20.47	10CP1	
		1P090078		23.81	10CP1	1R	32		27.5	10	*4
		1P090047		27.5	10	*1	1P090048		30.8	10	*1
		1R	24	34.3	10CP4	1R	15		34.3	10CP4	
		1P090049		34.3	10CP1					10	
090066	CROSS WPT SID3. AGCS				10					10	
	BEGINS TURN TO HDG				10					10	
	057.				10					10	
090067	MON AUTO HEADING	2K	14	0	10	P2	2K	33	0	10	P1
	CHANGE MANEUVER	2K	47	0	10	P1	2K	52	0	10	P1
090068	TUNE NAV-1 TO SPAR-	8B090002		0	10CP1	5W	01		5	10CP3	
	TANBURG VOR -115.7	5W	02	5	10CP2	5W	03		7.37	10CP2	
		1P090096		8	10CP1	1P	02		8	10	P2
090069	TURN COMPLETE - ON				10					10	
	HDG 057.				10					10	
090070	BEGIN MACH 0.65	4B	07	0	10	P2	3F	01	.5	10	P3
	CLIMB.	7F	25	3	10	P1	7F	30	3	10	P1
090071	RECEIVE NOTICE OF	1R	33	0	10	*1	1P090079		0	10	*1
	CONFLICTING TRAFFIC	1P090080		3	10	*1	1P090081		7	10	*1
		1R	25	10	10CP2	1R	37		10	10CP3	
		1P090082		10	10CP1	1P090083			13.3	10CP1	
090072	USE ALT ENG MODE TO	2H	33	0	10	P1	2H	31	2.5	10	P1
	ESTABLISH NEW ALTI-	2H	42	3.28	10	P1	2H	34	1	10	P1
	TUDE WHILE IN VERT	2H	28	4.06	10	P1	2H	30	5.48	10	P1
	PATH MODE	2H	36	6.26	10	P1				10	
090073	USE FPA SEL MODE TO	3L	02	0	10	P1	2H	21	1	10	P1
	CONTROL RATE OF	2H	22	2.4	10	P1	2H	26	3.17	10	P1
	CLIMB	2H	27	5.65	10	P1				10	
090074	REACH 26000 FT				10					10	
090075	MONITOR AUTO LEVEL	2H	25	0	10	P1	3H	02	.77	10	P3
	OFF WHILE IN ALT ENG	2K	17	2.9	10	P1	4B	02	5.17	10	P2
	MODE	7F	25	5.17	10	P4	7F	30	5.17	10	P3
		3A	10	5.17	10	P2				10	
090076	SET MFD TO 32 NM MAP	2K	10	0	10	P1	2K	17	2.68	10	P1
090077	RECEIVE CLEARANCE TO	1R	33	0	10	*2	1P090084		0	10	*1
	CONTINUE CLIMB TO	1P090085		3.1	10	*1	1R	24	6.5	10CP4	
	CRUISE ALTITUDE	1R	15	6.5	10CP4	1P090086			6.5	10CP1	
		1P090087		9.5	10CP1					10	
090078	RE-ESTABLISH VERT	2H	39	0	10	P1	2H	40	1.36	10	P1
	PATH MODE	2H	36	2.14	10	P1				10	
		4B	07	3.7	10	P2	7F	25	3.7	10	P4
		7F	30	3.7	10	P3	3F	01	4.14	10	P3
090079	CLIMB THRU 28000 FT.	3H	02	0	10CP4	1R	24		2.37	10CP4	
	REPORT TO ATC.	1R	15	2.37	10CP4	1P090050			2.37	10CP1	
		1R	16	7	10	*2	1P090088		7	10	*1
		1P090089		10	10	*1	1R	25	11	10CP3	
		1R	37	11	10CP4	1P090090			11	10CP1	
090080	REACH 31000 FT. AC-				10					10	
	CELERATE TO LONG				10					10	
	RANGE CRUISE SPEED				10					10	

	-MACH 0.67				10				10	
090081	REACH MACH 0.67	4B	07	0	10 P2	3F	01	5	10 P3
		7F	25	3	10 P1	7F	30	3	10 P1
090082	RECEIVE CLEARANCE TO	1R	32	0	10 *4	1P090054		0	10 *1
	CONTINUE CLIMB TO	1P090055		3.5	10 *1	1R	25	8	10CP4
	CRUISE ALTITUDE	1R	38	8	10CP1	1P090056		8	10CP1
		1P090057		12	10CP1	1P	06	8	10 P2
090083	TUNE HIGH ROCK ULTRA	1R	01	0	10CP3	1R	02	0	10CP2
	HIGH SECTOR -134.55	1R	03	2.93	10CP2	1R	05	4.51	10CP2
		1R	27	6	10CP1	1R	38	6	10CP1
		1P090091		6	10CP1	1P090092		9	10CP1
		1R	16	13	10 *2	1P090014		13	10 *1
		1N	07	17	10CP1	1R	16	20	10 *1
		1P090061		20	10 *1	1P090062		23.5	10 *1
		1R	27	26	10CP2	1R	36	20	10CP4
		1P090002		26	10CP1				10
B9EA01	ENGINE 1 FIRE				10				10
B9EA02	ENGINE FIRE SEQUENCE	7P	39	00	10 *1	1PB9EA01		.71	10 P1
	- PRIMARY	1P	19	.71	10CP2	7P	47	2.21	10CP1
		7P	53	2.21	10CP1	7P	15	3.56	10CP1
		1PB9EA02		4.47	10CP1	1P	20	4.47	10 P1
		4B	08	6.47	10CP2	4A	23	8.97	10 P1
		1PB9EA04		8.97	10CP1	1P	09	8.97	10 P1
		7M	08	12.21	10CP3	1PB9EA06		13.61	10CP1
		1P	09	13.61	10 P2	7P	17	15.48	10CP2
		1PB9EA08		16.78	10CP1	1P	09	16.78	10 P1
		7P	15	21.78	10CP4	1PB9EA10		24.78	10CP1
		1P	16	24.78	10 P3	7P	18	26.91	10CP2
		7P	27	27.18	10CP2	1PB9EA11		28.68	10CP1
		1P	16	28.68	10 P4	7P	16	42.18	10CP3
		1PB9EA12		42.68	10CP1	1P	06	42.68	10 P4
B9EA03	ENGINE FIRE SEQUENCE	1R	25	00	10 P1	1R	41	00	10 P1
	-NOTIFY ATC	1PB9EA13		00	10 P1	1R	35	6.8	10 *4
		1PB9EA14		3.8	10 *1	1PB9EA27		3.0	10 *1
		1R	42	22.8	10 P1	1R	41	22.8	10 P2
		1PB9EA15		22.8	10 P1	1N	05	33.8	10CP1
		1N	07	36.6	10CP2				10
B9EA04	ENGINE FIRE SEQUENCE	8B	02	00	10CP3	8B	05	5.9	10CP2
	READ CHECKLIST	8D	03	10.9	10CP1	1PB9EA16		12.9	10CP1
	PRIMARY	1P	16	14.4	10 P4	8B	03	14.4	10CP1
		1PB9EA17		16.4	10CP1	1P	16	16.4	10 P4
		8B	03	17.9	10CP1	1PB9EA18		19.9	10CP1
		1P	16	19.9	10 P4	8B	03	21.4	10CP1
		1PB9EA19		23.4	10CP1	1P	16	23.4	10 P4
		1PB9EA12		24.9	10CP1	1P	06	24.9	10 P4
B9EA05	SECONDARY ENGINE	8B	03	00	10CP1	1PB9EA20		2.	10CP1
	FIRE SEQUENCE	1P	16	2.	10 P4	7D	31	3.5	10CP2
		1PB9EA21		5.35	10CP1	1P	16	5.35	10 P4
		7D	18	6.85	10CP1	1PB9EA22		9.25	10CP1
		1P	16	9.25	10 P4	7L	22	10.75	10CP1
		1PB9EA23		13.04	10CP1	1P	13	13.04	10 P3
		7C	31	16.54	10CP3	7C	35	18.89	10CP4
		7B	33	20.28	10CP2	1PB9EA24		22.0	10CP1
		1P	15	22.6	10 P3	1PB9EA25		22.6	10CP1
		1P	16	27.7	10 P4	1PB9EA26		27.7	10CP1
		1P	16	29.2	10 P4	7E	31	29.2	10CP1
09FE01	HYD SYS B PUMP OVHT	7A	24	0	10CP1	7A	24	0	10 P1
		1P010022		.53	10CP1	1P	06	.53	10 P3
		7A	25	1.53	10CP1	1P	03	1.53	10 P1
		7A	15	3.67	10CP1	7A	06	5.22	10CP1

		7A	24	7.17	10 P1	7A	24	7.17	10CP1
		7A	25	7.7	10CP1	7A	11	7.84	10CP1
		1P09FE	01	10.39	10CP1	1P	15	10.39	10 P1
		1P	03	13.1	10 P1	8S	02	10	10CP3
		8B	05	16	10CP1	8B	03	26	10CP2
		1P09FE	02	30	10CP1	1P	16	30	10 P4
		1P09FE	03	32	10CP1	1P	08	32	10 P2
		1P	03	33.6	10 P1	8B	08	32	10CP1
110001	REACH 33000 FT -EN ROUTE CRUISE ALTI- TUDE . BEGIN ACCEL- ERATION TO LONG RANGE CRUISE SPEED -MACH 0.71	4B	03	0	10 P2	3F	01	0	10 P3
					10				10
					10				10
					10				10
					10				10
					10				10
110002	REPORT REACHING 33000 FT.	1B	25	0	10CP4	1B	32	0	10CP1
		1P110001		0	10CP1	1P110002		4	10CP1
		1B	20	6	10 *3	1P110003		6	10 *1
110003	REACH MACH 0.71	3F	01	0	10 P3	4B	07	0	10 P2
110004	PILOT REQUESTS RE- TURN TO ATLANTA . CONTROLLER COORDI- NATES WITH ADJACENT SECTORS FOR RETURN VECTORS.	1B	25	0	10CP1	1B	17	0	10CP2
		1P110004		0	10CP1	1P110005		4	10CP1
		1B	20	6	10 *4	1P110006		6	10 *1
					10				10
					10				10
					10				10
110005	RECEIVE VECTORS FOR THE LANIER SIX STAR, PULASKI TRANSITION	1B	36	0	10 *1	1P110007		0	10 *1
		1P110008		3.66	10 *1	1P110009		8.54	10 *1
		1B	26	12	10CP1	1B	17	12	10CP1
		1P110010		12	10CP1	1P110011		16	10CP1
		1B	19	12	10 P2				10
110006	BEGIN TURN TO HDG 270	4A	28	0	10 P2	3S	12	5	10 P2
		3S	01	0	10 P2	3L	02	0	10 P1
110007	TUNE BADIN ULTRA HIGH SECTOR -135.35	1B	07	0	10CP3	1B	08	0	10CP2
		1B	09	2.88	10CP1	1B	06	5	10CP1
		1B	28	6.5	10CP1	1B	17	6.5	10CP1
		1P110012		6.5	10CP1	1P110013		10	10CP1
		1B	36	13	10 *2	1P110014		13	10 *1
		1N	07	15	10CP1	1B	36	18	10CP2
		1P110015		18	10CP1				10
110008	SET NAV-1 TO PULASKI VOR	8B	06	0	10CP1	8B110001		6	10CP1
		5U	01	11	10CP3	5U	02	11	10CP3
		5U	03	14	10CP2	1P110020		16.5	10CP1
		1P	12	16.5	10 P1	5G	04	19	10 P1
		5H	02	16.5	10CP1				10
110009	TURN COMPLETE - ON HDG 270				10				10
					10				10
110010	RECEIVE INSTRUCTIONS TO DESCEND TO 31000 FT	1B	19	0	10 *2	1P110016		0	10 *1
		1P110017		3.5	10 *1	1B	25	8	10CP3
		1B	17	8	10CP4	1P110018		8	10CP1
		1P110019		12	10CP1				10
110011	CONTROL A/C MAN - 1	4A	08	0	10 P4	8A	08	0	10 P1
110012	FLT INST SCAN - 1	3R	57	0	10 P2	3A	14	5	10 P1
		3L	04	0	10 P1	3S	17	0	10 P4
11FD01	HYD SYS B LOW PRESS.	7A	24	0	10CP1	7A	24	0	10 P1
		1P010022		.53	10CP1	1P	06	.53	10 P1
		7A	25	1.53	10CP1	1P	03	1.53	10 P1
		7A	11	3.67	10CP1	7A	13	4.22	10CP1
		1P11FD	01	4.77	10CP1	1P	02	4.77	10 P2
		1P	03	6.77	10 P1	4A	62	5	10CP2
		4A	19	6.21	10CP1	7A	20	7.26	10CP2
		4A	06	10	10CP1	7A	06	13.33	10CP1

		7A	08	15.28	10CP1	4D	41	16.74	10CP1
		8B	02	20	10CP3	8B	05	26	10CP1
		8B	03	36	10CP1	1P11FD02		38	10CP1
		1P	15	38	10 P2	8B	03	41.7	10CP1
		1P11FD03		43.7	10CP1	1P	16	43.7	10 P3
		8B	03	47	10CP1	1P11FD04		49	10CP1
		1P	15	49	10 P3	8B	03	53	10CP1
		1P11FD03		55	10CP1	1P	08	55	10 P2
		8B	08	55	10CP1				10
11AF01	ENG NO.2 OIL FILTER BYPASS	7F	15	0	10CP1	1P11AF01		.83	10CP1
		1P	15	.83	10 P4	1P	03	4	10 P1
		7F	15	.83	10 P1	4B	02	2	10 P2
		4A	23	3	10 P1	4G	10	6	10 P1
		7F	16	5	10CP1	7F	34	5.83	10CP1
		1P11AF02		8	10CP1	1P	17	8	10 P1
		1P	03	11.5	10 P1				10
11CB01	NO.2 CSD LOW OIL PRESSURE	7B	73	0	10 *1				10
		1P11CB01		.75	10CP1	1P	14	.75	10 P4
		7B	74	.75	10CP2	1P	03	2.85	10 P1
		7B	09	3.24	10CP1	1P11CB02		4.26	10CP1
		1P	19	4.26	10 P1	7B	13	4.5	10CP2
		7B	14	6.46	10CP1	7B	68	8.54	10CP2
		7B	72	10.72	10CP1	7B	63	13.29	10CP1
		7L	13	15.35	10CP4	7B	24	17.64	10CP2
		7B	44	18.56	10CP2	7B	25	20.06	10CP2
		1P11CB03		21	10CP1	1P	17	21	10 P2
		8B	02	21	10CP3	8B	05	27	10CP1
		8B	03	37	10CP1	1P11CB04		39	10CP1
		1P	17	39	10 P2	8B	03	43	10CP1
		1P11CB05		45	10CP1	1P	17	45	10 P3
		8B	03	49	10CP1	1P09FE03		51	10CP1
		1P	08	51	10 P2	1P	03	53	10 P1
		8B	08	51	10CP1				10
130001	REPORT REACHING CRUISE ALT	1R	26	0	10CP1	1R	38	0	10CP2
		1P110001		0	10CP1	1P110002		4	10CP1
		1R	33	5	10 *3	1P110003		5	10 *1
130002	MON AUTO LEVEL OFF WHILE IN VERT PATH MODE	3H	02	0	10 P3	2K	17	2.13	10 P1
		4B	02	4.4	10 P2	7F	25	7.13	10 P4
		7F	30	7.13	10 P3	3A	10	7.57	10 P2
130003	CROSS WPT LINCO				10				10
130004	PILOT REQUESTS RETRN TO ATLANTA. CONTROLLER COORDINATES WITH ADJACENT SECTOR CONTROLLERS FOR RETURN VECTORS.	1R	26	0	10CP2	1R	38	0	10CP3
		1P110004		0	10CP1	1P110005		4	10CP1
		1R	33	6	10 *4	1P110006		6	10 *1
					10				10
					10				10
					10				10
130005	RECEIVE VECTORS	1R	33	0	10 *2	1P130001		0	10 *1
		1P130002		3.7	10 *1	1R	26	7	10CP3
		1R	38	7	10CP4	1P130003		7	10CP1
130006	TURN TO HDG 270				10				10
130007	HEADING CHANGE MANEUVER USING TKA SEL MODE -VERT PATH CURRENT MODE	2H	19	0	10 P1	2H	20	2.5	10 P1
		2H	17	3.61	10 P1	2H	14	4.38	10 P1
		2H	15	5.79	10 P1	2H	42	6.56	10 P1
		2H	28	7.34	10 P1	2H	29	8.76	10 P1
		2K	17	12.04	10 P1				10
130008	TURN COMPLETE - ON HDG 270				10				10
					10				10
130009	RECEIVE INSTRUCTIONS FOR A 4-D SHINE 01 STAR	1R	34	0	10 *1	1P130004		0	10 *1
		1P130005		4.5	10 *1	1P130006		9	10 *1
		1R	26	10	10CP4	1R	39	10	10CP1

		1P130010		10	10CP1	1P130011		14	10CP1
		8B	01	17.5	10CP2				10
130010	SET UP NEW 4-D				10				10
	FLIGHT PLAN				10				10
130011	LOOK UP PAGE 2	2L	68	0	10CP1	2L	16	2.03	10CP2
		2L	68	4.11	10CP2	2L	16	5.50	10CP1
130012	LOOK UP PAGE 2 -	2L	52	0	10CP2	2L	16	12	10CP1
	STAR CALL-UP	2L	20	15	10CP2	2K	17	17	10CP1
130013	STAR NAME - SHINE 01	2L	55	1.46	10CP1	2L	44	2.81	10CP2
		2L	45	4.16	10CP2	2L	50	5.51	10CP2
		2L	41	6.86	10CP1	2L	35	8.21	10CP1
		2L	26	9.56	10CP1				10
130014	LOOK UP PAGE 2 -	2L	38	0	10CP2	2L	16	8.32	10CP1
	AWY CALL-UP	2L	20	10.66	10CP2	2K	17	12.17	10CP1
130015	AWY NAME - J815R	2L	46	1.46	10CP1	2L	33	2.81	10CP2
		2L	26	4.16	10CP3	2L	30	5.51	10CP1
		2L	54	6.86	10CP2				10
130016	SHINE 01 AND J815R	2K	17	0	10CP2				10
	DISPLAYED ON MFD.				10				10
	CO-PILOT DETERMINES				10				10
	THAT THE COMMON WPT				10				10
	ON THE STAR AND AWY				10				10
	IS THE WPT SHINE. AN				10				10
	EST MADE OF RNG AND				10				10
	BRG FROM WPT SHINE				10				10
	TO PT WHERE HDG 270				10				10
	INTCPTS J815R				10				10
130017	INITIALIZE PAGE	2L	63	0	10CP1	2L	07	1.48	10CP2
130018	DESTINATION NAME-	2L	47	3.56	10CP2	2L	37	4.91	10CP2
	KATL	2L	56	6.37	10CP2	2L	48	7.83	10CP1
130019	ATC CLRNC PAGE -				10				10
	CREATE WPT BASED ON	2L	37	0	10CP2	2L	08	15.18	10CP1
	BEARING AND RANGE	2K	17	17.52	10CP1	2L	20	19.79	10CP3
	FROM EXISTING WPT				10				10
130020	WPT01 BEARING/RANGE	2L	59	1.46	10CP1	2L	52	2.81	10CP1
	270 DEG 80 NM	2L	56	4.16	10CP1	2L	35	5.51	10CP1
		2L	26	6.86	10CP3	2L	27	8.21	10CP1
		2L	32	9.69	10CP1	2L	35	11.04	10CP1
		2L	33	12.39	10CP1	2L	35	13.83	10CP1
130021	FL INPUT - 320	2L	42	0	10CP2	2L	19	1.46	10CP2
		2L	28	3.52	10CP1	2L	27	4.87	10CP1
		2L	35	6.22	10CP1	2L	20	7.57	10CP1
130022	GS INPUT - 250	2L	49	0	10CP1	2L	19	1.47	10CP2
		2L	27	3.53	10CP1	2L	30	4.88	10CP1
		2L	35	6.23	10CP1	2L	20	7.58	10CP3
130023	WPT NAME - LAKEE	2L	48	1.46	10CP1	2L	37	2.81	10CP1
		2L	47	4.16	10CP1	2L	41	5.51	10CP1
		2L	41	6.86	10CP1				10
130024	PTA INPUT - 10:21:00	2L	56	0	10CP2	2L	26	1.46	10CP3
		2L	35	2.81	10CP1	2L	27	4.16	10CP1
		2L	26	5.51	10CP3	2L	35	6.86	10CP1
		2L	35	8.21	10CP1	2L	20	9.56	10CP3
130025	HANDOFF TO BADIN	1R	34	0	10 *2	1P130007		0	10 *1
	ULTRA HIGH SECTOR	1P130008		4	10 *1	1R	24	5	10CP3
	-135.35	1R	39	5	10CP2	1P130009		5	10CP1
		1R	07	8.5	10CP3	1R	08	8.5	10CP4
		1R	09	11.4	10CP2	1R	27	13	10CP3
		1R	38	13	10CP2	1P110001		13	10CP1
		1P110002		17	10CP1	1R	32	18	10 *1
		1P110014		18	10 *1	1N	07	21	10CP1

130026	INITIATE TIME PATH	2H	35	0	10CP2	2H	39	2.15	10CP1
	-4-D GUIDANCE MODE	2H	49	3.51	10CP1	2H	50	4.86	10CP1
		2K	17	5.64	10CP1	2K	23	7.91	10CP1
		2K	31	5.64	10CP1				10
130027	KEY IN WPT PPOS	2L	52	1.46	10CP1	2L	52	2.81	10CP1
		2L	51	4.16	10CP1	2L	55	5.51	10CP1
130028	WPT02 BEARING/RANGE	2L	54	1.46	10CP1	2L	52	2.81	10CP1
	234 DEG 17 NM	2L	56	4.16	10CP1	2L	35	5.51	10CP1
		2L	27	6.86	10CP1	2L	27	8.21	10CP1
		2L	28	9.69	10CP1	2L	29	11.04	10CP1
		2L	26	12.39	10CP1	2L	32	13.84	10CP1
130029	KEY IN WPT SHINE	2L	55	0	10CP1	2L	44	1.35	10CP2
		2L	45	2.70	10CP1	2L	50	4.05	10CP1
		2L	41	5.40	10CP1				10
130030	ATC CLEARANCE PAGE -	2L	52	0	10CP2	2L	08	11.01	10CP1
	STAR INPUT	2K	17	13.35	10CP1				
140001	CONTACT PULASKI HIGH	1B	01	0	10CP2	1B	02	0	10CP2
	SECTOR -132.75	1B	03	2.9	10CP1	1B	04	5	10CP1
		1B	28	6.5	10CP2	1B	17	6.5	10CP4
		1P140001		6.5	10CP1	1P140002		10.5	10CP1
		1B	20	15	10 *4	1P140003		15	10 *1
		1N	06	19	10CP1	1B	36	23	10 *2
		1P140004		23	10 *1				10
140002	BEGIN DESCENT TO				10				10
	31000FT				10				10
140003	ALTITUDE CHANGE PROC	4A	29	0	10 P2	3L	02	0	10 P1
		3H	02	0	10 P1	3R	10	0	10 P4
		4B	03	0	10 P2	3F	01	0	10 P3
140004	LEVEL OFF AT 31000				10				10
	FT				10				10
140005	RECEIVE VECTOR TO	1B	36	0	10 *3	1P140005		0	10 *1
	INTERCEPT PULASKI	1P140006		3.27	10 *1	1P140007		7.63	10 *1
	225 RADIAL	1B	25	13	10CP3	1B	17	13	10CP4
		1P140008		13	10CP1	1P140009		17	10CP1
140006	TURN TO HDG 240				10				10
140007	HEADING CHANGE PROC.	3S	01	0	10 P2	4A	28	0	10 P2
		3L	02	0	10 P1	3S	11	0	10 P1
		3R	58	0	10 P1				10
140008	TURN COMPLETE - ON				10				10
	HDG 240				10				10
140009	BEGIN TURN TO PULAS-				10				10
	KI 225 RADIAL				10				10
140010	TURN COMPLETE - ON				10				10
	HDG 225				10				10
140011	SET NAV-2 TO TOCCOA	8B	06	0	10CP1	8B140001		6	10CP1
	VOR -109.8	5V	01	12	10CP3	5V	02	12	10CP2
		5V	03	14.93	10CP1	1P140042		17	10CP1
		1P	13	17	10CP1	5G	05	19.5	10 P1
		5H	03	17	10CP1				10
140012	HANDOFF TO LANIER	1B	18	3	10 *4	1P140010		0	10 *1
	HIGH SECTOR	1B	24	4	10CP4	1B	16	4	10CP1
		1P140011		4	10CP1	1B	07	8	10CP3
		1B	08	8	10CP2	1B	09	10.88	10CP1
		1B	06	13	10CP1	1B	28	14.5	10CP3
		1B	17	14.5	10CP3	1P140012		14.5	10CP1
		1B	20	20	10 *4	1P140013		20	10 *1
		1N	07	23	10CP1	1B	36	26	10 *2
		1P140014		26	10 *1				10
140013	RECEIVE INSTRUCTIONS	1B	36	0	10 *4	1P140015		0	10 *1
	TO DESCEND TO 24000	1P140016		3.9	10 *1	1B	25	7	10CP1

	FT	1B	17		7	10CP2	1P140017		7	10CP1	
		1P140018			11	10CP1				10	
140014	BEGIN MACH 0.75 DESCENT					10				10	
						10				10	
140015	REACH 26000 FT					10				10	
140016	RECEIVE CLEARANCE TO DESCEND TO 11000 FT.	3H	02		0	10CP1	1B	25	2	10CP2	
		1B	17		2	10CP3	1P140019		2	10CP1	
		1B	19		7	10 *3	1P140020		7	10 *1	
		1P140021			10.75	10 *1	1B	25	15	10CP3	
		1B	17		15	10CP4	1P140022		15	10CP1	
		1P140023			19	10CP1				10	
140017	TUNE NORCROSS LOW SECTOR -125.2	1B	01		0	10CP2	1B	02	0	10CP2	
		1B	03		2.9	10CP1	1B	05	5	10CP1	
		1B	28		6.5	10CP2	1B	17	6.5	10CP4	
		1P140024			6.5	10CP1	1P140025		10.5	10CP1	
		1B	18		14	10 *3	1P140026		14	10 *1	
		1P140027			17.5	10 *1	1N	07	20	10CP1	
140018	SET ALTIMETER BARO SETTING TO 29.80	1P140043			0	10CP1	1P	13	0	10 P2	
						10				10	
140019	CROSS TOCCOA VOR					10				10	
140020	TUNE NORCROSS VOR -116.6	8B	06		0	10CP1	8B140002		6	10CP1	
		5U	01		13.70	10CP3	5U	02	13.70	10CP3	
		5U	03		16.70	10CP2	1P140044		18.78	10CP1	
		1P	13		15	10 P1	5G	04	17.5	10 P1	
		5H	02		20.81	10CP1				10	
140021	RECEIVE INSTRUCTIONS TO GO INTO A HOLDING PATTERN AT LANIER INTERSECTION	1B	37		0	10 *1	1P140028		0	10 *1	
		1P140029			4	10 *1	1P140030		9.33	10 *1	
		1P140031			14.66	10 *1	1B	25	16	10CP3	
		1B	17		16	10CP4	1P140032		16	10CP1	
		1P140033			20.5	10CP1				10	
140022	REACH 17000 FT. BEGIN 500 FT/MIN RATE OF DESCENT					10				10	
						10				10	
						10				10	
140023	REPORT 1000 FT TO LEVEL OFF	3H	02		0	10CP3	1P140045		2	10CP1	
		1P	11		2	10 P4				10	
140024	REACH 16000 FT. BEGIN DECELLERATION TO 210 KIAS.					10				10	
						10				10	
						10				10	
140025	TUNE CHATTANOOGA VOR -115.8	8B	07		0	10CP1	8B140003		6	10CP1	
		5V	01		11	10CP3	5V	02	11	10CP2	
		5V	03		13.93	10CP1	1P140046		16	10CP1	
		1P	13		16	10 P1	5G	05	19	10 P1	
		5H	03		19	10CP1				10	
140026	REACH 210 KIAS.	3A	01		0	10 P3	4B	03	0	10 P2	
140027	HOLDING PATTERN PROC -RIGHT TURNS	3S	20		0	10 P1	3S	12	0	10 P1	
		4A	66		0	10 P1	3L	03	0	10 P3	
	-1 1/2 MIN. LEGS	3A	11		0	10 P3	3N	03	4.5	10 P1	
		4B	07		7	10 P2				10	
	-1 LOOP	3S	17	1	0	10 P2	4A	67	1 30	10 P1	
	-INITIATE FIRST	3S	16	1	30	10 P1	4A	65	1 30	10 P4	
		3N	04	1	30	10 P1				10	
	TURN OVER INTER-SECTION	3N	03	1	30	10CP1	3A	11	1 30	10 P3	
		4B	07	1	35	10 P2	3L	03	1 30	10 P3	
		3S	17	1	30	10 P2	3N	02	2 00	10CP1	
		1P140047		2	0	10CP1	1P	11	2 00	10 P2	
		3N	02	2	30	10CP1	1P140048		2 30	10CP1	
		1P	11	2	30	10 P2	3N	02	2 55	10CP1	
		1P140049		2	55	10CP1	1P	11	2 55	10 P2	
		3N	04	3	00	10CP1	4A	66	3 00	10 P1	
		3N	03	3	00	10 P1				10	

		3L	03	3	00	10 P3	3A	11	3	00	10 P3
		4B	07	3	05	10 P2	3S	17	4	00	10 P2
		4A	67	4	30	10 P1	3N	04	4	30	10 P1
		3S	15	4	30	10 P2					10
		4A	65	4	30	10 P1	3N	03	4	30	10CP1
		3A	10	4	30	10 P3	4B	07	4	35	10 P2
		3L	03	4	30	10 P4	3N	02	5	00	10CP1
		1P140047		5	00	10CP1	1P	11	5	00	10 P2
140028	RECEIVE CLEARANCE TO CONTINUE DESCENT AND APPROACH	1B	36		0	10 *3	1P140034			0	10 *1
		1P140035			3.27	10 *1	1P140036			7.63	10 *1
		1B	25		12	10CP1	1B	17		12	10CP2
		3N	03		12	10 P1					10
		1P140037			12	10CP1	1P140038			16.5	10CP1
140029	BEGIN DESCENT. SET THRUST FLIGHT IDLE					10					10
						10					10
						10					10
140030	REACH 11000 FT AT 230 KIAS					10					10
						10					10
140031	HANDOFF TO ATLANTA APPROACH CONTROL	1B	20		0	10 *1	1P140039			0	10 *1
		1P140040			4	10 *1	1B	25		5	10CP2
		1B	17		5	10CP3	1P140041			5	10CP1
140032	ALTIMETER BARO SET PROC.	3H	04		0	10 P3	3H	03		0	10 P2
		3H	04		0	10CP3	3H	03		0	10CP3
150001	RECEIVE INSTRUCTIONS TO DESCEND TO 31000 FT.	1R	34		0	10 *3	1P110016			0	10 *1
		1P110017			3	10 *1	1R	30		8	10CP1
		1R	39		8	10CP3	1P110018			8	10CP1
		1P110019			12	10CP1	1R	01		13	10CP3
		1R	02		13	10CP2	1R	03		15.93	10CP2
		1R	05		17.51	10CP2	1R	27		19	10CP1
		1R	38		19	10CP1	1P140001			19	10CP1
		1P140002			23	10CP1	1R	33		25	10 *4
		1P140003			25	10 *1	1N	07		28	10CP1
150002	USE ALT ENG MODE TO ESTABLISH NEW ALTITUDE WHILE IN TIME PATH MODE	2H	33		0	10 P1	2H	31		2.47	10 P1
		2H	51		5.73	10 P1	2H	34		4.31	10 P1
		2H	28		4.31	10 P1	2H	30		6.51	10 P1
		2H	42		7.29	10 P1	2H	36		8.07	10 P1
		2H	44		8.85	10 P1					10
150003						10					10
150004	REVISE FLIGHT PLAN TO ESTABLISH NEW FLIGHT LEVEL 310 AT SPTDI	2L	65		0	10CP1	2L	09		2.03	10CP1
		2L	24		4.37	10CP1	2L	24		5.87	10CP2
		2L	09		7.19	10CP2	2L	42		9.27	10CP1
		2L	28		10.62	10CP2	2L	26		12.08	10CP3
		2L	35		13.43	10CP1	2L	20		14.78	10CP1
		2L	09		16.25	10CP2	2L	21		18.33	10CP3
		1P150012			20	10CP1	1P	02		20	10 P2
150005	ADJUST THRUST TO FLY AIRPLANE SYMBOL ON MFD INTO TIME BOX	2K	17		0	10 P1	2K	31		0	10 P1
		4B	07		0	10 P2	2K	24		0	10 P3
		2K	32		5.13	10 P1	2K	17		10	10 P1
		2K	31		10	10 P1	4B	07		10	10 P2
		2K	32		12	10 P1					10
150006	RE-ESTABLISH TIME PATH 4-D MODE	2H	39		0	10 P1	2H	49		2.92	10 P1
		2H	50		4.27	10 P1	2H	32		5.05	10 P1
		2H	44		5.83	10 P1	2H	38		2.14	10 P1
		2H	42		6.61	10 P1	2H	40		1.36	10 P1
150007	LEVEL OFF AT 31000 FT					10					10
						10					10
150008	HANDOFF TO LANIER HIGH SECTOR -132.4	1R	16		0	10 *2	1P140010			0	10 *1
		1R	14		4	10CP4	1R	15		4	10CP3
		1P140011			4	10CP1	1R	07		8	10CP3
		1R	08		8	10CP4	1R	09		10.9	10CP2

		1R	06	12.48	10CP2	1R	27	14	10CP4
		1R	15	14	10CP4	1P140012		14	10CP1
		1R	33	19	10 *4	1P140013		19	10 *1
		1N	07	22	10CP1				10
150009	BEGIN TURN TO HDG 234 TO ACQUIRE J815R				10				10
150010	TURN COMPLETE - ON AWY J815R				10				10
150011	AGCS BEGINS PROGRAMMED DESCENT TO 11000 FT. THRUST ADJUSTED AUTOMATICALLY.				10				10
150012	RECEIVE INSTRUCTIONS FROM ATC	1R	32	0	10 *2	1P154001		0	10 *1
		1P150002		4	10 *1	1R	25	7	10CP3
		1R	37	7	10CP4	1P150003		7	10CP1
150013	SET ALTIMETER BARO SETTING TO 29.88	1P150013		0	10CP1	1P	15	0	10 P1
150014	CROSS WPT SHINE. AGCS BEGIN AUTO TURN TO HDG 211				10				10
150015	TURN COMPLETE - ON HDG 211				10				10
150016	DESCEND THRU 26000 FT. REPORT TO ATC. HANDOFF TO NORCROSS LOW SECTOR -125.2	1R	24	0	10CP4	1R	15	0	10CP4
		1P140019		0	10CP1	1R	34	5	10 *4
		1P150005		5	10 *1	1P150006		8	10 *1
		1R	38	10	10CP2	1R	39	10	10CP4
		1P150007		10	10CP1	1R	01	14	10CP3
		1R	02	14	10CP2	1R	03	16.93	10CP2
		1R	05	18.51	10CP2	1R	27	20	10CP1
		1R	38	20	10CP1	1P140024		20	10CP1
		1P140025		24	10CP1	1R	33	27	10 *4
		1P140013		27	10 *1	1N	07	30	10CP1
150017	CROSS WPT LANDS. AGCS BEGINS PROGRAMMED TURN TO HDG 228				10				10
150018	TURN COMPLETE - ON HDG 228				10				10
150019	LEVEL OFF AT 11000 FT				10				10
150020	MONITOR AUTO LEVEL OFF WHILE IN TIME PATH MODE	3H	02	0	10 P3	2K	14	2.13	10 P1
		3L	01	4.4	10 P1				10
150021	AGSC BEGINS PROGRAMMED DECELERATION TO 250 KIAS.				10				10
150022	REACH 250 KIAS				10				10
150023	RECEIVE INSTRUCTIONS TO CHANGE LAKESIDE PTA TO 10:22:15	1R	35	0	10 *1	1P150009		0	10 *1
		1P150010		4	10 *1	1R	30	9	10CP1
		1R	39	9	10CP3	1P150011		9	10CP1
150024	REVISE FLIGHT PLAN TO CHANGE LAKESIDE PTA	2L	65	0	10CP1	2L	09	2.03	10CP1
		2L	24	4.37	10CP1	2L	24	5.87	10CP2
		2L	09	7.19	10CP1	2L	56	9.53	10CP1
		2L	26	10.88	10CP1	2L	35	12.33	10CP1
		2L	27	13.68	10CP1	2L	27	15.03	10CP1
		2L	26	16.38	10CP3	2L	30	17.73	10CP1
		2L	30	19.08	10CP2	2L	09	20.59	10CP1
		2L	21	22.93	10CP4	1P150014		24.45	10CP1
		1P	02	24.45	10 P3				10
150025	MONITOR AIRCRAFT AND TIME BOX SYMBOLS ON	2K	17	0	10 P1	2K	31	0	10 P1
					10				10

	MFD AS AGCS ADJUSTS SPEED TO ACQUIRE NEW TIME SLOT				10 10 10 10				10 10 10 10
150026	REACH 220 KIAS				10				10
150027	HANDOFF TO ATLANTA APPROACH CONTROL -126.9	1R 1P140040 1R	16 40	0 4 6	10 *4 10 *1 10CP1	1P140039 1R 1P140041	24	0 6 6	10 *1 10CP4 10CP1
160001	TUNE ATLANTA APPROACH CONTROL -126.9	1B 1B	07 09	0 2.88	10CP3 10CP1 10	1B	08	0	10CP2 10 10
160000	TURN ON LANDING LTS	7G	17	0	10CP2				10
160002	TUNE ATIS -123.7	1A 1A 1A 1P160001 1P160003 1P160005	07 09 17	0 2.98 6.43 8 15.98 25.1	10CP3 10CP1 10CP2 10 *1 10 *1 10 *1	1A 1A 1A 1P160002 1P160004 1P160006	08 06 15 11.42 20.54 29.66	0 5 8 10 *1 10 *1 10 *1	10CP2 10CP1 10 *3 10 *1 10 *1 10 *1
160003	SET ALTIMETER BARO SETTING TO 29.84	1P160043		0	10CP1 10	1P	13	0	10 P3 10
160004	CONTACT ATLANTA APPROACH CONTROL	1A 1A 1P160008 1N	06 12 07	0 2.4 6.4 12	10CP1 10CP3 10CP1 10CP1	1A 1P160007 1A 1P160009	10 2.4 15 9	2.4 2.4 9 9	10CP4 10CP1 10 *4 10 *1
160005	DESCENT AND APPROACH CHECKLIST - 1	1P160043 8B 8B 1P 1P 1P160046 7D 7E 1P	02 03 10 07 69 08 16	0 2 13 15 17 20 22 26.69 28	10 P1 10CP3 10CP1 10 P1 10 P4 10CP1 10CP1 10CP1 10 P1	1P 8B 1P160044 1P160045 8B 1P 7D 1P160047	02 05 15 17 03 13 70	0 8 15 17 18 20 24.67 28	10CP2 10CP2 10CP1 10CP1 10CP1 10 P4 10CP1 10CP1 10
160006	DESCENT AND APPROACH CHECKLIST - 2	8B 1P 7M 1P 1P160050 7G 1P 1P160052 3H 1P160053	03 11 06 06 17 16 02 23.4	0 2 6.54 8.5 11 12 14.2 16.5 18 23.4	10CP1 10 P3 10 P4 10CP4 10CP1 10CP2 10 P2 10CP1 10CP4 10CP1	1P160048 7M 1P160049 8B 1P 1P160051 8B 1P 3H 1P	03 12 03 05 09	2 3 8.5 9 11 14.2 14.5 16.5 20.37 23.40	10CP1 10 P3 10 P1 10CP1 10 P4 10CP1 10CP1 10 P2 10CP1 10 P1
160007	DESCENT AND APPROACH CHECKLIST - 3	8B 1P 8B160001 7F 7F 1P160055 3A 3A 1P160056 8B 1P 8B010005	03 02 27 29 07 13 03 02	0 2 5 10.32 12.64 20 22 25 28 29.6 31.6 34.6	10CP1 10 P1 10CP1 10CP1 10CP1 10CP1 10 P2 10 P1 10CP1 10CP1 10 P4 10CP1	1P160054 8B010004 7F 7F 8B160002 3A 1P 3A 3A 1P 1P160057 8B	26 28 05 14 05 12 08 08	2 2 10 12.32 15 20 20 22 25 28 29.6 31.6	10CP1 10CP1 10CP4 10CP4 10CP1 10CP2 10 P1 10 P3 10CP1 10 P2 10CP1 10CP1 10
160008	CROSS NORCROSS VOR. RECEIVE INSTRUCTIONS TO TURN TO HDG 210 AND TO SLOW TO 200 KIAS	1B 1P160011 1B	18 17	0 4 6	10 *3 10 *1 10CP2 10 10	1P160010 1B 1P160012	25	0 6 6	10 *1 10CP1 10CP1 10 10

160009	TURN TO HDG 210 AND				10				10	
	SLOW TO 200 KIAS				10				10	
160010	TURN COMPLETE - ON				10				10	
	HDG 210				10				10	
160011	SET FLAPS TO FLAPS 1	1P160058		0	10 P1	1P	10	0	10CP2	
		4E	07	1	10CP1	4E	15	3.69	10CP3	
		4N	03	5.92	10CP2	4N	04	7.09	10CP2	
		4E	16	8.26	CP1					
		1P160058		9.26	10CP1	1P	10	5	10 P2	
		7F	30	7	10 P3	7F	25	7	10 P4	
160012	REACH 200 KIAS	4B	07	0	10 P2				10	
160013	SET NAV-1 TO RUNWAY	8B	06	0	10CP1	8B160003		6	10CP1	
	08 ILS -109.9	5U	01	11	10CP3	5U	02	11	10CP3	
		5U	03	14	10CP2	1P160059		16.5	10CP1	
		1P	12	16.5	10 P1	5G	04	19	10 P1	
		5H	02	16.5	10CP1				10	
160014	SET NAV-2 TO REG VOR	5V	01	0	10CP3	5V	02	0	10CP2	
	-111.8	5V	03	2.93	10CP1	1P160060		5	10CP1	
		1P	02	5	10 P2	5G	05	7	10 P1	
		5H	03	5	10CP1				10	
160015	RECEIVE INSTRUCTIONS	1B	37	0	10 *2	1P160014		0	10 *1	
	TO SLOW TO 190 KIAS	1B	14	4	10CP2	1B	15	4	10CP2	
		1P160015		4	10CP1				10	
160016	REDUCE SPEED	4B	07	0	10 P2				10	
160017	SET FLAPS TO FLAPS 5	1P160061		0	10 P1	4E	09	1	10CP3	
		1P160061		9.59	10CP1				10	
160018	FLAP SET PROCEDURE	1P	10	0	10CP2	4N	03	3.69	10CP2	
		4E	15	3.69	10CP3	4E	16	5.92	10CP1	
		4N	04	8.42	10CP2					
		1P	10	6.03	10 P2	7F	25	7	10 P4	
		7F	30	7.44	10 P3				10	
160019	HANDOFF TO APPROACH	1B	20	0	10 *1	1P160016		0	10 *1	
	CONTROL -127.25	1P160017		4	10 *1	1B	26	6	10CP2	
		1B	32	6	10CP2	1P160018		10	10CP1	
		1B	01	10	10CP2	1B	02	10	10CP2	
		1B	03	12.88	10CP1	1B	05	15	10CP1	
		1B	28	16.5	10CP4	1B	32	16.5	10CP1	
		1P160019		16.5	10CP1	1P160020		20	10CP1	
		1B	19	22	10 *4	1P160021		22	10 *1	
		1N	07	26	10CP1				10	
160020	RECEIVE INSTRUCTIONS	1B	19	0	10 *2	1P160022		0	10 *1	
	TO TURN TO HDG 270,	1P160023		4	10 *1	1B	25	8	10CP3	
	REDUCE SPEED TO 170,	1B	17	8	10CP4	1P160024		8	10CP1	
	AND TO DESCEND TO	1P160025		12	10CP1				10	
	4500 FT.				10				10	
160021	BEGIN TURN TO HDG				10				10	
	270				10				10	
160022	TURN COMPLETE - ON	4B	07	0	10 P2				10	
	HDG 270. BEGIN DE-				10				10	
	CELERATION TO 170.				10				10	
160023	REACH 170 KIAS				10				10	
160024	BEGIN DESCENT TO				10				10	
	4500 FT.				10				10	
160025	SET FLAPS TO FLAPS	1P160062		0	10 P1	4E	11	1	10CP3	
	15	1P160062		9.59	10CP1				10	
160026	LEVEL OFF AT 4500 FT				10				10	
160027	RECEIVE INSTRUCTIONS	1B	37	0	10 *2	1P160063		0	10 *1	
	TO SLOW TO 160 KIAS.	1B	14	4	10CP2	1B	15	4	10CP2	
		1P160064		4	10CP1				10	
160028	REDUCE THRUST	4B	07	0	10 P2				10	

160029	REACH 160 KIAS	4B	07	0	10 P2				10
160030	RECEIVE INSTRUCTIONS	1B	18	0	10 *4	1P160026		0	10 *1
	TO TURN TO HDG 180	1B	26	4	10CP2	1B	32	4	10CP2
		1P160027		4	10CP1				10
160031	TURN TO HDG 180				10				10
160032	TURN COMPLETE - ON				10				10
	HDG 180				10				10
160033	RECEIVE FINAL	1B	37	0	10 *3	1P160028		0	10 *1
	APPROACH INSTRUCTION	1P160029		3.21	10 *1	1P160030		7.49	10 *1
		1P160031		11.77	10 *1	1B	26	15	10CP1
		1B	17	15	10CP1	1P160032		15	10CP1
		1P160033		19	10CP1				10
160034	TUNE ATLANTA TOWER	1B	07	0	10CP3	1B	08	0	10CP2
	-119.5	1B	09	2.88	10CP1				10
160035	BEGIN TURN TO HDG				10				10
	120				10				10
160036	TURN COMPLETE - ON				10				10
	HDG 120				10				10
160037	CAPTURE ILS LOC	3R	59	0	10CP1	1P160067		2.6	10CP1
	BEGIN TURN TO	1P	02	2.6	10 P4	3R	16	0	10 P3
	HDG 090	3S	01	0	10 P2	4A	28	0	10 P2
		1P	92	6.50	10CP2	3S	11	6.53	10 P2
					10	1P160068		6.53	10 P1
		3V	06	4	10 P1	3R	16	10	10 P3
		3S	01	10	10 P2	4A	28	10	10 P2
160038	SET DECISION HEIGTH				10				10
	ON RADIO ALTIMETER				10				10
160039	SET ADF-1 TO LAKE-	5D	17	0	10CP3	5D	22	3	10CP1
	SIDE -375KC	5D	01	3.77	10CP2	5D	02	5.75	10CP3
		1P160065		7.73	10CP1	1P	02	7.73	10 P1
160040	SET ADF-2 TO LAKE-	5E	17	0	10CP2	5E	01	3	10CP2
	SIDE -375	5E	02	3	10CP3	5E	20	3	10CP1
		1P160066		5	10CP1	1P	02	5	10 P1
160041	MON VOR/RMI-1	5G	04	0	10 P2	5G	05	0	10 P2
160042	MON ADF/RMI-1	5D	28	0	10 P2	5D	29	0	10 P2
160043	TUNE NAV-1 TO RWY 08	5U	01	0	10CP3	5U	02	0	10CP3
	ILS -109.9	5U	03	3	10CP2	1P160069		5	10CP1
		1P	02	5	10 P1				10
160044	TURN COMPLETE - ON				10				10
	HDG.090 -RWY 08 HDG				10				10
160045	ANNUNCIATOR RECALL	7A	28	0	10CP1	7A	36	2.28	10CP1
160046	CONTROL AIRCRAFT ON	3R	16	0	10 P2	3S	01	0	10 P2
	FINAL APP - A (10)	4A	30	0	10 P2				10
160047	MON INSTRUMENTS ON	3R	62	0	10CP1	3S	04	0	10CP2
	FINAL APP	3R	63	0	10CP1	3A	10	0	10CP2
		3H	07	0	10CP1	3L	02	0	10CP2
160048	MON ADF/RMI-2	5E	26	0	10CP1				10
160049	MON RADIO ALTIMETER	3J	01	0	10CP1				10
160050	RECEIVE INSTRUCTIONS	1B	18	0	10 *4	1P160034		0	10 *1
	TO SLOW TO 150	1B	14	4	10CP2	1B	1[illegible]	4	10CP2
		1P160035		4	10CP1				10
160051	REDUCE SPEED TO 150	4B	07	0	10 P2	3A	01	0	10 P1
	KIAS				10				10
160052	REACH 150 KIAS	3A	01	0	10 P1	4B	07	0	10 P2
160053	SET FLAPS TO FLAPS	1P160070		0	10 P1	4E	12	1	10CP1
	25	1P160070		9.59	10CP1				10
160054	ACQUIRE GLIDESLOPE	3R	60	2	10 P1	3R	60	0	10CP1
		1P160071		2.6	10CP1	1P	10	2.6	10 P1
		3V	09	4.58	10 P1				10
160055	RECEIVE INSTRUCTIONS	1B	18	0	10 *4	1P160036		0	10 *1

	TO MAINTAIN CURRENT	1B	14	8	10CP4	1B	20	8	10CP3
	SPEED	1P160037		8	10CP1				10
160056	BEGIN DECELERATION	1P160072		0	10CP1	1P	10	0	10 P1
	TO 135 KNOTS	4B	07	1	10 P2	3A	01	1	10 P1
160057	SET FLAPS TO FLAPS	1P160073		0	10 P1	4E	14	1	10CP1
	40	1P160073		9.59	10CP1				10
160058	REPORT RUNWAY IN	8A	01	0	10CP1	1P160074		2	10CP1
	SIGHT	1P	10	2	10 P1				
160059	CROSS RWY XX OUTER	3V	11	0	10 P2	1P160075		2	10 P1
	MARKER	1P	13	2	10CP4	3N	03	0	10 P1
		3V	06	0	10 P1	3V	09	0	10 P1
160060	EXTEND LANDING GEAR	4D	03	0	10CP3	4D	05	3	10CP2
		4D	09	3.5	10CP3				10
160061	CONTACT TOWER FOR	1B	05	0	10CP4	1B	25	2.4	10CP1
	FINAL LANDING CLEAR-	1B	17	2.4	10CP2	1P160038		6.4	10CP1
	ANCE	1B	19	10.4	10 *2	1P160040		10.4	10 *1
		1P160041		14.4	10 *1	1B	29	17.4	10CP1
		1B	15	17.4	10CP4	1P160037		17.4	10CP1
160062	LANDING CHECKLIST					1P160076		0	10CP1
		1P	10	0	10 P4	1P160077		.6	10CP1
		1P	14	.6	10 P2				
		1P160078		1.0	10CP1	1P	10	1.0	10 P2
		1P160079		1.7	10 P1	1P	02	1.7	10CP4
						1P160080		3.0	10CP1
		1P	10	3.0	10 P2	1P160081		5.7	10CP1
		1P	10	5.7	10 P1				
		1P160082		4.7	10CP1	1P	14	4.7	10 P2
		1P160083		5.1	10CP1	1P	12	5.1	10 P4
		1P160084		6.2	10CP1	1P	12	6.2	10 P4
160063	DESCEND THRU 500 FT	1P160085		0	10CP1	1P	14	0	10 P3
	ABOVE RWY				10				10
160064	CROSS RWY 08 MIDDLE	3V	13	0	10 P1	3V	13	0	10CP1
	MARKER				10				10
160065	DESCEND THRU	3R	12	0	10CP3	1P160086		2.58	10CP1
	-DECISION HEIGTH	1P	11	2.58	10 P2				10
160066	CONTROL AIRCRAFT	4A	68	0	10 P1				
	THRU TOUCHDOWN				10				10
160067	CROSS END OF RWY 08				10				10
160068	TOUCHDOWN	4B	08	0	10 P1	4A	31	0	10 P1
		4C	01	2.5	10 P2	4C	02	24	10 P1
		4F	01	28	10 P3	4M	04	0	10 P4
		8A	02	0	10 P1				10
160069	SET SPEED BRAKES	4F	02	0	10 P3	4F	07	0	10 P2
160070	SET AUTO BRAKES	4D	43	0	10CP1	4D	40	2.62	10CP1
160071	HANDOFF TO GROUND	1B	18	0	10 *3	1P160087		0	10 *1
	CONTROL -121.9	1P160088		3.5	10 *1	1B	14	6	10CP2
		1B	15	6	10CP2	1P160089		6	10CP1
		1B	01	9	10CP3	1B	02	9	10CP2
		1B	03	11.88	10CP1	1B	05	14	10CP1
		1B	29	15.50	10CP2	1B	16	15.5	10CP1
		1P160090		15.5	10CP1	1B	18	20	10 *4
		1P160091		20	10 *1	1P160092		23.5	10 *1
		1B	29	25	10CP1	1B	15	25	10CP4
		1P160037		25	10CP1				10
160072	CONTROL AIRCRAFT ON	3R	16	0	10 P4	3S	04	0	10 P4
	FINAL APP - B(240)	4A	30	0	10 P4				10
160073	CONTROL A/C ON FINAL	4A	30	0	10 P1	3R	61	0	10 P2
	APPROACH - C (5)	3S	04	0	10 P2				10
160074	SET AUTO BRAKES	4D	43	0	10 P1	4D	40	2.62	10 P1
160075	MAN CNTRL A/C	4A	31	00	10 P4	8A	08	00	10 P4

160076	CAPTURE LOC	3R	59		0	10CP1	1P160067		0	10CP1
		1P	02	2.6	10 P1	3V	06	2.8	10 P2	
160077	MON INSTRUMENTS ON FINAL APP - CP	3R	62		0	10CP3	3S	17	0	10CP1
		3R	63		0	10CP3	3A	10	0	10CP3
		3H	06		0	10CP3	3L	02	0	10CP3
160078	MON INSTRUMENTS ON FINAL APP - CP	3R	62		0	10CP4	3S	15	0	10CP1
		3R	63		0	10CP4	3A	10	0	10CP4
		3H	06		0	10CP4	3L	02	0	10CP4
160079	MON INSTRUMENTS ON FINAL APP - P	3R	62		0	10 P2	3S	01	0	10 P2
		3R	63		0	10 P1	3A	10	0	10 P1
		3H	06		0	10 P2	3L	02	0	10 P1
160080	MON INSTRUMENTS ON FINAL APP - P	3R	62		0	10 P3	3S	17	0	10 P1
		3R	63		0	10 P3	3A	10	0	10 P3
		3H	06		0	10 P3	3L	02	0	10 P3
160081	MON INSTRUMENTS ON FINAL APP - P	3R	62		0	10 P4	3S	15	0	10 P1
		3R	63		0	10 P4	3A	10	0	10 P4
		3H	06		0	10 P4	3L	02	0	10 P4
160082	CONTROL A/C ON FINAL APPROACH - PILOT (30 SEC)	4A	69		0	10 P3	3R	62	0	10 P3
		3R	63		0	10 P3	3A	10	0	10 P3
		3H	06		0	10 P3	3L	02	0	10 P3
		3S	01		0	10 P3				10
160083	CONTROL A/C ON FINAL APPROACH - PILOT (60 SEC)	4A	69		0	10 P4	3R	62	0	10 P4
		3R	63		0	10 P4	3A	10	0	10 P4
		3H	06		0	10 P4	3L	02	0	10 P4
		3S	15		0	10 P1				10
160084	CONTROL A/C ON FINAL APPROACH - CO-PILOT	4A	78		0	10CP1	3R	62	0	10CP3
		3R	63		0	10CP3	3A	10	0	10CP3
		3H	06		0	10CP3	3L	02	0	10CP3
		3S	17		0	10CP1				10
160085	CONTROL A/C ON FINAL APPROACH - CO-PILOT	4A	78		0	10CP2	3R	62	0	10CP4
		3R	63		0	10CP4	3A	10	0	10CP4
		3H	06		0	10CP4	3L	02	0	10CP4
		3S	15		0	10CP1				10
160086	CONTACT TOWER FOR FINAL LANDING CLEARANCE	1B	35		0	10 P4	1B	25	2.4	10 P1
		1B	17	2.4	10 P2	1P160038		6.4	10 P1	
		1P	17	10.4	10 *3	1P160040		10.4	10 *1	
		1P160041		14.4	10 *1	1B	29	16	10 P1	
		1B	15	16	10 P4	1P160037		16	10 P1	
160087	LANDING CHECKLIST	8B090001		0	10 P1	1P160076		2	10 P1	
		1P	10	2	10CP4	1P160077		2.6	10 P1	
		1P	14	2.6	10CP2	8B090001		3	10 P1	
		1P160078		5	10 P1	1P	10	5	10CP2	
		1P160079		6	10CP1	1P	02	6	10 P4	
		8B090001		7.5	10 P1	1P160080		9.5	10 P1	
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		1P	10	10.2	10CP1	8B090001		11.2	10 P1	
		1P160082		13.2	10 P1	1P	14	13.2	10CP2	
		1P160083		13.6	10 P1	1P	12	13.6	10CP4	
		8B090001		14.1	10 P1	1P160084		16.1	10 P1	
		1P	12	16.1	10CP4				10	
160088	CONTROL AIRCRAFT - A (5 SEC PROC)	4A	64		0	10 P3	3R	64	0	10 P1
160089	CONTROL AIRCRAFT - B (10 SEC PROC)	4A	64		0	10 P2	3R	64	0	10 P2
160090	CONTROL AIRCRAFT - C (30 SEC PROC)	4A	64		0	10 P4	3R	64	0	10 P3
160091	CONTROL AIRCRAFT - D (60 SEC PROC)	4A	65		0	10 P1	3R	64	0	10 P4
160092	CONTROL AIRCRAFT - E (60 SEC PROC)	4A	65		0	10 P4	3R	65	0	10 P1

160093	CONTROL AIRCRAFT - F (120 SEC PROC)	4A	65	0	10 P3	3R	65	0	10 P2	19
160094	CONTROL AIRCRAFT THRU TOUCHDOWN	4A	68	0	10 P1	8A	06	0	10 P3	10
160095	REPORT RUNWAY IN SIGHT	8A	01	0	10CP1	1P160074		2	10CP1	
		1P	10	2	10 P1	8A	01	2	10 P3	10
16EK00	PILOT INCAPACITATION									
16EK01	ADVISE APPROACH CONTROL OF PILOT INCAPACITATION	1B	26	0	10CP3	1B	32	0	10CP3	
		1P16EK01		0	10CP1	1P16EK02		3	10CP1	
		1P16EK03		7	10CP1	1B	19	12	10CP1	
		1P16EK04		12	10CP1	1P16EK05		15	10CP1	
		1P16EK06		19	10CP1				10	
16EK02	CONTROL AIRCRAFT -A1	4A	72	0	10CP2	8A	03	0	10CP2	
		3R	10	0	10CP1	3A	10	0	10CP2	
		3L	02	0	10CP1	3A	10	0	10CP1	
16EK03	COMPLETE TURN. BEGIN DECELERATION.	4B	07	0	10CP1				10	
16EK04	REACH 170 KIAS. SET THRUST TO FLIGHT IDLE.				10				10	
					10				10	
					10				10	
					10				10	
16EK05	BEGIN DESCENT TO 4500 FT.				10				10	
					10				10	
16EK06	ALTITUDE CHANGE PROCEDURE - A	4A	72	0	10CP2	3L	02	0	10CP1	
		3H	02	0	10CP1	3R	10	0	10CP4	
		4B	07	0	10CP1	3F	01	0	10CP3	
16EK07	SET FLAPS 15	4E	11	0	10CP4				10	
16EK08	FLAP SET PROC. - A	4E	15	3	10CP3	4N	05	6.40	10CP1	
16EK09	CONTROL AIRCRAFT -F1	4A	73	0	10CP2	8A	09	0	10CP1	
		3R	57	0	10CP1	3S	15	0	10CP3	
		3L	03	0	10CP2	3A	11	0	10CP2	
16EK10	CONTROL AIRCRAFT -D1	4A	72	0	10CP4	8A	09	0	10CP2	
		3R	56	0	10CP3	3S	15	0	10CP1	
		3L	02	0	10CP4	3A	10	0	10CP4	
16EK11	LEVEL OFF AT 4500 FT				10				10	
16EK12	CONTROL AIRCRAFT	4A	72	0	10CP3	8A	09	0	10CP4	
		3R	57	0	10CP3	3S	15	0	10CP4	
		3L	04	0	10CP2	3A	11	0	10CP4	
16EK13	REDUCE THRUST	4B	07	0	10CP1				10	
16EK14	REACH 160 KIAS	4B	07	0	10CP1				10	
16EK15	MON VOR/RMI-2	5H	02	0	10CP3	5H	03	0	10CP3	
16EK16	MON ADF/RMI-2	5E	26	0	10CP2	5E	27	0	10CP2	
16EK17	BEGIN TURN TO HDG 150				10				10	
					10				10	
16EK18	HEADING CHANGE PROC-A	3S	01	0	10CP2	4A	74	0	10CP2	
		3L	02	0	10CP1	3S	11	5	10CP3	
		3R	58	0	10CP1				10	
16EK19	TURN COMPLETED - ON HDG 180.				10				10	
					10				10	
16EK20	CONTROL AIRCRAFT -B1	4A	72	0	10CP1	8A	09	0	10CP3	
		3R	56	0	10CP1	3L	02	0	10CP2	
		3A	10	0	10CP2	3S	01	0	10CP3	
16EK21	BEGIN TURN TO HDG 120				10				10	
					10				10	
16EK22	TURN COMPLETED - ON HDG 120				10				10	
					10				10	
16EK23	CAPTURE ILS LOCALIZER. BEGIN TURN TO HDG 090.	3R	39	0	10CP1	3R	16	0	10CP3	
		3S	04	0	10CP3	4A	74	0	10CP2	
		3R	16	10	10CP3	3S	04	10	10CP3	
		4A	74	10	10CP2	3S	11	5	10CP3	
		3V	06	0	10CP1				10	

16EK24	TURN COMPLETED - ON HDG 090 -RWY 08 HDG				10				10
16EK25	CONTROL AIRCRAFT ON FINAL APPROACH - A1	3R	16	0	10CP3	3S	04	0	10CP3
		4A	75	0	10CP2	8A	03	0	10CP2
16EK26	CONTROL AIRCRAFT ON FINAL APPROACH - B1	3R	16	0	10CP4	3S	04	0	10CP3
		4A	75	0	10CP4	8A	03	0	10CP3
16EK27	REDUCE SPEED TO 150 KIAS.	4B	07	0	10CP1				10
					10				10
16EK28	REACH 150 KIAS	4B	07	0	10CP1				10
16EK29	SET FLAPS 25	4E	12	0	10CP1				10
16EK30	ACQUIRE GLIDE SLOPE	3V	09	0	10CP1	3R	60	0	10CP1
16EK31	CROSS STUBBS. BEGIN DECELERATION TO 135 KIAS.	4B	07	0	10CP1				10
					10				10
					10				10
16EK32	SET FLAPS 40	4E	14	0	10CP1				10
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16EK34	SET SPEED BRAKES	4F	02	0	10CP2				10
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16EK35	LANDING CHECKLIST - PILOT INCAPACITATED	8B090001		0	10CP1	1P160076		2	10CP1
		1P160077		2.6	10CP1	8B090001		5	10CP1
		1P160078		5	10CP1	1P160079		5.7	10CP1
		8B090001		7	10CP1	1P160080		9	10CP1
		1P160081		9.7	10CP1	8B090001		13.7	10CP1
		1P160082		14.1	10CP1	1P160083		14.1	10CP1
		8B090001		15.2	10CP1	1P160084		17.2	10CP1
16EK36	CROSS MIDDLE MARKER	3V	13	0	10CP1				10
16EK37	DESCEND THRU 1200 FT - DECISION HEIGHT	3R	12	0	10CP1				10
					10				10
16EK38	CONTROL AIRCRAFT THRU TOUCHDOWN	8A	03	0	10CP4	4A	72	0	10CP3
					10				10
16EK39	CROSS END OF RUNWAY				10				10
16EK40	TOUCHDOWN AND ROLL OUT	4B	08	0	10CP2	4A	68	0	10CP2
		4C	01	2.5	10CP3	4C	02	24	10CP2
		4D	28	60	10CP3	4M	03	90	10CP1
		8A	07	0	10CP1				10
16EK41					10				10
16EK42					10				10
16EK43					10				10
16EK44					10				10
16EK45					10				10
16EK46					10				10
16EK47					10				10
16EK48					10				10
16EK49					10				10
					10				10
16EK50	ADVISE ATC OF PILOT INCAPACITATION	1R	30	0	10CP4	1R	40	0	10CP3
		1P16EK01		0	10CP1	1P16EK02		3	10CP1
		1P16EK03		11	10CP1	1R	35	11	10CP2
		1P16EK04		11	10CP1	1P16EK05		14	10CP1
		1P16EK06		18	10CP1				10
16EK51	MONITOR AUTO HEADING CHANGE	2K	14	0	10CP2	2K	33	0	10CP1
		2K	47	0	10CP1	2K	52	0	10CP1
16EK52	SET EADI FOR ILS APPROACH	2J	31	0	10CP3	2J	25	2.15	10CP2
		2J	13	4.82	10CP1				10
16EK53	FLIGHT INSTRUMENT SCAN - B	2J	02	0	10CP2	3L	02	0	10CP1
		3A	10	0	10CP1	2K	14	0	10CP2
		2K	46	0	10CP1				10
16EK54	CAPTURE ILS LOCALIZER	2K	09	0	10CP1				10
					10				10
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16EK56	SET AGCS TO AUTO	2H	10	0	10CP2	2H	11	2.13	10CP1	
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		1P160064		4	10CP1				10	
16EK68	RECEIVE INSTRUCTIONS	1B	18	0	10CP4	1P160026		0	10CP1	
	TO TURN TO HDG 180	1B	26	4	10CP2	1B	32	4	10CP2	
		1P160027		4	10CP1				10	
16EK69	RECEIVE INSTRUCTIONS	1B	18	0	10CP4	1P160034		0	10CP1	
	TO SLOW TO 150	1B	14	4	10CP2	1B	15	4	10CP2	
		1P160035		4	10CP1				10	
16FB01	LANDING GEAR FAIL TO	4D	03	00	10CP3	4D	07	3.27	10CP1	
	EXTEND	4D	11	3.27	10CP1	4D	05	5.54	10CP1	
		4D	09	5.54	10CP3				10	
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		4D	12	13.60	10CP1	4D	03	14.14	10CP2	

		4D	05	21.67	10CP2	4D	11	21.67	10CP1
		1P16FB02		22.21	10CP1	1P	15	22.21	10 P4
16FB04	INITIATE GO-AROUND	1P16FB03		.41	10 P1	1P	15	.41	10CP4
	BY PILOT	4B	06	.41	10 P1				10
16FB05	COPILOT GOAROUND	3H	02	00	10CP1	7F	27	00	10CP2
	ACTIVITIES	7F	29	00	10CP2	4E	11	00	10CP3
		3A	10	00	10CP1	7G	40	00	10CP1
		4E	15	1.40	10CP1				10
		1P16FB04		7.80	10CP1				10
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		4D	07	9.80	10CP1	4D	11	9.80	10CP1
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		1P	16	15.15	10 P2	4D	08	19.80	10CP1
		4D	12	19.80	10CP1	1P16FB06		19.80	10CP1
		1P	02	19.80	10 P2				10
16FB06	PILOT/GRD GOAROUND	1B	24	0	10 P4	1B	16	0	10 P1
	COMMUNICATIONS	1P16FB07		0	10 P1	1B	20	3.5	10 *2
		1P16FB08		3.5	10 *1	1B	38	8.9	10 P1
		1B	39	8.9	10 P1	1P16FB09		8.9	10 P1
		1P16FB21		14.4	10 P1				10
16FB07	P/CP GOAROUND	1P16FB10		0	10 P1	1P	19	0	10CP3
	COMMUNICATIONS				10				10
16FB08	CP FLAP SET AND	4E	09	0	10CP3	4E	15	2.69	10CP3
	CALLOUTS	1P16FB11		4.92	10CP1	1P	07	5.00	10CP1
		4B	07	5.08	10CP1	7F	25	7.81	10CP2
		7F	30	7.81	10CP2	3H	06	9.89	10CP1
		1P16FB12		16.89	10CP1	1P	07	16.89	10 P1
16FB09	LEVEL OFF AT 3000				10				10
16FB10	CP RADIO COMMUNICAT-	1B	24	0	10CP2	1B	16	0	10CP4
	IONS	1P16FB13		0	10CP1				10
16FB11	ATL TWR HANDOFF	1B	32	0	10 *4	1P16FB14		0	10 *1
		1P16FB15		7.5	10CP1	1P	06	7.5	10 P3
		3A	10	7.5	10 P1	4B	07	7.5	10 P2
		1B	25	9.5	10CP1	1B	17	9.5	10CP2
		1P16FB16		9.5	10CP1	4G	04	9.61	10 P1
		3H	32	9.61	10 P2	4G	13	10.38	10 P4
16FB12	TURN TO MISSED				10				10
	APPROACH HEADING				10				10
16FB13	CP SELECT VHF-3	1B	05	0	10CP1				10
16FB14	TURN COMPLETE				10				10
16FB15	MANUAL GEAR EXTEND	1P16FB17		0	10 P1	1P	02	0	10CP1
	PROCEDURE	8B	02	0	10CP3	8B	05	5.9	10CP2
		8B	03	10.9	10CP1	1P16FB18		12.9	10CP1
		1P	10	12.9	10 P1	8B	03	14.17	10CP1
		1P16FB19		16.17	10CP1	1P	12	16.17	10 P2
		4D	14	16.17	10CP1	4D	16	19.67	10CP1
		4D	11	20.37	10CP1	4D	17	21.17	10CP1
		4D	07	21.97	10CP1	4D	18	22.77	10CP1
		4D	11	23.57	10CP1	8B	03	25.57	10CP1
		4D	06	26.17	10CP1	4D	03	27.57	10CP1
		4D	09	27.57	10CP3	4D	08	30.84	10CP1
		4D	12	30.84	10CP1	1P16FB20		32.84	10CP1
		1P	10	32.84	10 P3	4D	15	34.04	10CP1
170001	RECEIVE INSTRUCTIONS	1B	37	0	10 *2	1P170001		0	10 *1
	TO SLOW TO 200 KIAS	1B	26	4	10CP2	1B	32	4	10CP2
		1P170002		4	10CP1				10
170002	ADJUST THRUST	4B	07	0	10 P2				10
170003	REACH 210 KIAS				10				10
170004	REACH 200 KIAS				10				10
170005	CROSS NORCROSS VOR.	1B	37	0	10 *4	1P170003		0	10 *1

	RECEIVE INSTRUCTIONS	1B	24	4	10CP2	1B	16	4	10CP4
	TO TURN TO HDG 210.	1P170004		4	10CP1				10
170006	TURN COMPLETED - ON				10				10
	HDG 210				10				10
170007	TUNE NAV RADIOS FOR	8B	06	0	10CP1	8B160003		6	10CP1
	MLS APPROACH.	5U	01	11	10CP3	5U	02	11	10CP3
		5U	03	14	10CP2	5V	01	44	10CP3
		5V	02	44	10CP2	5V	03	46.93	10CP1
		1P170026		49	10CP1	1P	02	49	10 P3
170008	RECEIVE INSTRUCTIONS	1B	19	0	10 *2	1P170005		0	10 *1
	TO TURN, REDUCE SPD.	1P170006		3.5	10 *1	1B	26	7	10CP4
	AND DESCEND.	1B	32	7	10CP4	1P170007		7	10CP1
		1P170008		11	10CP1				10
170009	BEGIN TURN TO HDG				10				10
	270				10				10
170010	TURN COMPLETED - ON	4B	07	0	10 P2				10
	HDG 270. BEGIN DE-				10				10
	CELERATION				10				10
170011	REACH 190 KIAS				10				10
170012	REACH 180 KIAS.				10				10
	BEGIN DESCENT TO				10				10
	6000 FT				10				10
170013	LEVEL OFF AT 6000 FT				10				10
170014	MLS ACQUISTION	3R	59	0	10CP1	1P160067		2.5	10CP1
		1P	02	2.5	10 P4				10
170015	RECEIVE INSTRUCTIONS	1B	18	0	10 *3	1P170009		0	10 *1
	TO TURN TO HDG 180,	1B	25	6	10CP2	1B	17	6	10CP3
	DESCEND TO 3600 FT.	1P170011		6	10CP1	1P170012		9.5	10CP1
170016	BEGIN TURN TO HDG				10				10
	180 AND DESCENT TO				10				10
	3600 FT.				10				10
170017	TURN COMPLETED - ON				10				10
	HDG 180				10				10
170018	LEVEL OFF AT 3600 FT				10				10
170019	RECEIVE INSTRUCTIONS	1B	18	0	10 *4	1P170013		0	10 *1
	TO REDUCE SPEED TO	1B	26	4	10CP2	1B	32	4	10CP2
	160 KIAS	1P170014		4	10CP1				10
170020	REACH 170 KIAS				10				10
170021	RECEIVE FINAL CLEAR-	1B	19	0	10 *4	1P170015		0	10 *1
	ANCE	1P170016		3	10 *1	1P170017		7	10 *1
		1B	25	10	10CP1	1B	17	10	10CP2
		1P170018		10	10CP1	1P170019		14	10CP1
		1B	07	15	10CP3	1B	08	15	10CP2
		1B	09	17.88	10CP1				10
170022	BEGIN RUNWAY 08	3R	16	0	10 P2	3S	01	0	10 P2
	CENTERLINE ACQUISI-	4A	28	0	10 P2	3S	11	5	10 P2
	TION TURN	3R	16	10	10 P3	3S	01	10	10 P2
		4A	28	10	10 P2	3R	16	20	10 P2
		3S	01	20	10 P2	4A	28	20	10 P2
		3R	16	30	10 P3	3S	01	30	10 P2
		4A	28	30	10 P2	3R	16	40	10 P3
		3S	01	40	10 P2	4A	28	40	10 P2
170023	RECEIVE INSTRUCTIONS	1B	32	0	10 *1	1P170020		0	10 *1
	TO MAINTAIN SPEED	1P170021		3.5	10 *1	1B	14	4.5	10CP4
		1B	15	4.5	10CP4	1P160037		4.5	10CP1
170024	TURN COMPLETED -				10				10
170025	CROSS APPROACH GATE.	4B	07	0	10 P2				10
	BEGIN DECELERATION.				10				10
170026	CONTACT TOWER	1B	06	0	10CP4	1B	28	2.39	10CP1
		1B	17	2.39	10CP2	1P170022		2.39	10CP1

					1P170023		6.39	10CP1	1B		19	8	10 *2
					1P170024		8	10 *1	1P170025			11.50	10 *1
170027	BEGIN 6 DEG FIRST SEGMENT MLS APPROCH DESCENT							10					10
170028	REACH 135 KIAS							10					10
170029	BEGIN TRANSITION TO 3 DEG SECOND SEGMENT MLS APPROCH DESCENT							10					10
170030	COMPLETE TRANSITION							10					10
170031	CONTROL AIRCRAFT ON FINAL APP -180	4A	69			0		10 P1	2J	02		0	10 P4
		3L	04			0		10 P3	3A	14		0	10 P2
		2J	05			0		10 P4	2J	19		0	10 P4
		2K	14			0		10 P4	2K	46		0	10 P3
		2K	33			0		10 P3	2J	01		0	10 P4
170032	CONTROL AIRCRAFT ON FINAL APP -30	4A	69			0		10 P3	2J	02		0	10 P3
		3L	02			0		10 P3	3A	10		0	10 P3
		2J	05			0		10 P3	2J	19		0	10 P3
		2K	14			0		10 P3	2K	46		0	10 P2
		2K	33			0		10 P2	2J	01		0	10 P3
170033	CONTROL AIRCRAFT ON FINAL APP -10	4A	30			0		10 P2	2J	02		0	10 P2
		3L	02			0		10 P1	3A	10		0	10 P1
		2J	05			0		10 P2	2J	19		0	10 P2
		2K	14			0		10 P2	2K	46		0	10 P1
		2K	33			0		10 P1	2J	01		0	10 P2
170034	CONTROL AIRCRAFT ON FINAL APP -60	4A	69			0		10 P4	2J	02		0	10 P3
		3L	02			0		10 P4	3A	10		0	10 P4
		2J	04			0		10 P4	2J	19		0	10 P3
		2K	15			0		10 P2	2K	46		0	10 P4
		2K	33			0		10 P4	2J	01		0	10 P3
17EK00	PILOT INCAPACITATED							10					10
17EK01	ADVISE APPROACH CONTROL OF PILOT INCAPACITATION	1B	26			0		10CP3	1B	32		0	10CP3
		1P16EK01				0		10CP1	1P16EK07			3	10CP1
		1P16EK03				7		10CP1	1B	19		12	10CP4
		1P16EK04				12		10CP1	1P16EK08			15	10CP1
		1P16EK06				19		10CP1					10
17EK02	MLS ACQUISITION							10					10
17EK03	BEGIN TURN TO HDG 180 AND DESCENT TO 3600 FT							10					10
17EK04	TURN COMPLETED - ON HDG 180							10					10
17EK05	LEVEL OFF AT 3600 FT							10					10
17EK06	REACH 170 KIAS							10					10
17EK07	BEGIN RUNWAY CENTERLINE ACQUISITION TURN	3R	16			0		10CP3	3S	04		0	10CP3
		4A	28			0		10CP2	3S	11		5	10CP3
		3R	16			10		10CP3	3S	04		10	10CP3
		4A	74			10		10CP2	3R	16		20	10CP3
		3S	04			20		10CP3	4A	74		20	10CP2
		3R	16			30		10CP3	3S	04		30	10CP3
		4A	74			30		10CP2	3R	16		40	10CP3
		3S	04			40		10CP3	4A	74		40	10CP2
17EK08	TURN COMPLETED							10					10
17EK09	CONTROL AIRCRAFT ON FINAL APPROACH - X	3R	61			0		10CP1	3S	17		0	10CP3
		4A	69			0		10CP2					10
17EK10	CROSS APPROACH GATE. BEGIN DECELERATION.	4B	07			0		10CP1					10
17EK11	BEGIN 6 DEG FIRST SEGMENT MLS APPROACH DESCENT							10					10
								10					10
								10					10
								10					10

17EK12	REACH 135 KIAS				10				10	
17EK13	BEGIN TRANSITION TO				10				10	
	3 DEG SECOND SEGMENT				10				10	
	MLS APPROACH DESCENT				10				10	
17EK14	COMPLETE TRANSITION				10				10	
17EK15	500 FT ABOVE RUNWAY				10				10	
17EK16	CROSS END OF RUNWAY				10				10	
17EK17	TOUCHDOWN				10				10	
17EK18	RECEIVE INSTRUCTIONS	1B	18	0	10CP3	1P170009		0	10CP1	
	TO TURN TO HDG 180,	1B	25	6	10CP2	1B	17	6	10CP3	
	DESCEND TO 3600 FT.	1P170011		6	10CP1	1P170012		9.5	10CP1	
17EK19	RECEIVE INSTRUCTIONS	1B	18	0	10CP1	1P170013		0	10CP1	
	TO REDUCE SPEED TO	1B	26	4	10CP2	1B	32	4	10CP2	
	160 KIAS	1P170014		4	10CP1				10	
17EK20	RECEIVE FINAL CLEAR-	1B	19	0	10CP4	1P170015		0	10CP1	
	ANCE	1P170016		3	10CP1	1P170017		7	10CP1	
		1B	25	10	10CP1	1B	17	10	10CP2	
		1P170018		10	10CP1	1P170019		14	10CP1	
		1B	07	15	10CP3	1B	08	15	10CP2	
		1B	09	17.88	10CP1				10	
17EK21	RECEIVE INSTRUCTIONS	1B	32	0	10CP1	1P170020		0	10CP1	
	TO MAINTAIN SPEED	1P170021		3.5	10CP1	1B	14	4.5	10CP4	
		1B	15	4.5	10CP4	1P160037		4.5	10CP1	
17EK22	CONTACT TOWER	1B	06	0	10CP4	1B	28	2.39	10CP1	
		1B	17	2.39	10CP2	1P170022		2.39	10CP1	
		1P170023		6.39	10CP1	1B	19	8	10CP2	
		1P170024		8	10CP1	1P170025		11.50	10CP1	
180001	TUNE ATLANTA	1R	07	0	10CP3	1R	08	0	10CP4	
	APPROACH CONTROL	1R	09	2.9	10CP2				10	
	-126.9				10				10	
180002	TUNE ATIS -123.7	1Q	07	0	10CP4	1Q	08	0	10CP4	
		1Q	09	2.97	10CP2	1Q	06	4.94	10CP2	
		1Q	12	6.39	10CP2	1Q	30	9	10 *3	
		1P160001		9	10 *1	1P160002		12.42	10 *1	
		1P160003		16.98	10 *1	1P160004		21.54	10 *1	
		1P160005		26.1	10 *1	1P	06	31	10 *1	
180003					10				10	
180004	SET NAV-3 TO ATLANTA	5Y	01	0	10CP3	5Y	02	0	10CP2	
	VOR -115.6	5Y	03	3.12	10CP2	5Y	05	4.7	10CP1	
180005	CROSS WPT STAR01.				10				10	
	AGCS BEGINS PROGRAM-				10				10	
	MED TURN TO HDG 220				10				10	
	AND DECELERATION TO				10				10	
	200 KIAS				10				10	
180006	TURN COMPLETED - ON				10				10	
	HDG 220				10				10	
180007	REACH 210 KIAS				10				10	
180008	REACH 200 KIAS				10				10	
180009	HANDOFF TO APPROACH	1R	16	0	10 *4	1P160016		0	10 *1	
	CONTROL -127.25	1P160017		4	10 *1	1R	25	5	10CP3	
		1R	37	5	10CP4	1P160018		5	10CP1	
		1R	01	8	10CP3	1R	02	5	10CP2	
		1R	03	10.93	10CP2	1R	05	12.51	10CP1	
		1R	28	14	10CP1	1R	40	14	10CP2	
		1P160019		14	10CP1	1P160020		17.5	10CP1	
		1R	16	18.5	10 *2	1P160021		18.5	10 *1	
		1N	07	22	10CP1				10	
180010	CROSS WPT STAR02.				10				10	
	AGCS BEGINS PROGRAM-				10				10	
	MED TURN TO HDG 270				10				10	

	AND DECELERATION TO				10				10	
	170 KIAS				10				10	
180011	TURN COMPLETED -ON				10				10	
	HDG 270.				10				10	
180012	REACH 170 KIAS. AGCS				10				10	
	BEGINS PROGRAMMED				10				10	
	DESCENT TO 4500 FT.				10				10	
180013	SET NAV-1 TO RWY 08	5W	01	0	10CP3	5W	02	0	10CP2	
	ILS -109.9	5W	03	2.37	10CP2				10	
180014	SET NAV-2 TO RWY 08	5X	01	0	10CP3	5X	02	0	10CP2	
	ILS -109.9	5X	03	2.95	10CP2				10	
180015	SET NAV-3 TO RWY 08	5Y	01	0	10CP3	5Y	02	0	10CP2	
	ILS -109.9	5Y	03	3.12	10CP2				10	
180016	DESCEND THRU 10000	7G	17	0	10CP2				10	
	FT				10				10	
180017	LEVEL OFF AT 4500 FT				10				10	
180018	SET DECISION HEIGHT	2J	20	0	10CP1	2J	21	00	10CP2	
	ON EADI				10				10	
180019	AGCS BEGINS PROGRAM-				10				10	
	MED DECELERATION TO				10				10	
	160 KIAS				10				10	
180020	REACH 160 KIAS				10				10	
180021	AGCS BEGINS PROGRAM-				10				10	
	MED TURN TO HDG 180				10				10	
180022	TURN COMPLETED - ON				10				10	
	HDG 180.				10				10	
180023	RECEIVE INSTRUCTIONS	1R	16	0	10 *1	1P180004		0	10 *1	
	FROM ATC	1P180005		4	10 *1	1R	24	6	10CP4	
		1R	15	6	10CP4	1P180006		6	10CP1	
		1R	07	10	10CP3	1R	08	10	10CP4	
		1R	09	12.9	10CP2				10	
180024	AGCS BEGINS PROGRAM-				10				10	
	MED TURN TO HDG 120				10				10	
180025	TURN COMPLETED - ON				10				10	
	HDG 120				10				10	
180026	AGCS BEGINS PROGRAM-				10				10	
	MED TURN TO HDG 090				10				10	
180027	CAPTURE LOCALIZER	2J	09	0	10CP1	1P160067		2	10CP1	
		1P	02	2	10 P4				10	
180028	TURN COMPLETED - ON				10				10	
	HDG 090 - FINAL APP				10				10	
180029	AGCS BEGINS PROGRAM-				10				10	
	MED DECELERATION TO				10				10	
	150 KIAS				10				10	
180030	REACH 150 KIAS				10				10	
180031	ACQUIRE GLIDE SLOPE	3V	09	0	10 P2				10	
180032	CROSS STUBBS. AGCS	1P160072		0	10CP1	1P	10	0	10 P1	
	BEGINS PROGRAMMED				10				10	
	DECELERATION TO 135				10				10	
	KIAS				10				10	
180033	SET AGCS TO AUTO	2H	10	0	10 P1	2H	11	2.13	10 P1	
	LAND MODE	2H	51	3.18	10 P1	2J	13	3.96	10 P1	
180034	CONTACT TOWER FOR	1R	06	0	10CP3	1R	26	2	10CP2	
	FINAL LANDING CLEAR-	1R	38	2	10CP3	1P160038		2	10CP1	
	ANCE.	1P160039		6	10CP1	1R	32	8	10 *4	
		1P160040		8	10 *1	1P160041		12	10 *1	
		1R	27	15	10CP2	1R	36	15	10CP4	
		1P160037		15	10CP1				10	
180035	CROSS END OF RUNWAY				10				10	
180036	TOUCHDOWN AND ROLL-	8A	11	00	10CP2	2J	15	00	10CP2	

	OUT, AGCS AUTO LAND	2J	40	00	10CP2	2J	41	00	10CP2
	MODE CONTROLS A/C	7F	25	00	10CP3	7F	30	00	10CP4
	UNTILL 30KTS				10				10
180037	DISENGAGE AGCS	2H	10	0	10CP1	2H	13	2.13	10CP1
		2H	01	3.18	10CP2	2H	02	4.62	10CP1
		2H	09	5.67	10CP1	4A	64	0	10CP2
		4A	64	10	10CP3				10
180038	HANDOFF TO GROUND	1R	32	0	10 *2	1P160087		0	10 *1
	CONTROL -121.9	1P160088		3.5	10 *1	1R	23	6	10CP3
		1R	36	6	10CP2	1P160089		6	10CP1
		1R	01	9	10CP3	1R	02	9	10CP2
		1R	03	11.93	10CP2	1R	05	13.51	10CP2
		1R	14	15	10CP4	1R	15	15	10CP3
		1P160090		15	10CP1	1R	34	19	10 *4
		1P160091		19	10 *1	1P160092		22.50	10 *1
		1R	27	24	10CP2	1R	36	24	10CP4
		1P160037		24	10CP1				10
180039	SET EADI FOR ILS	2J	32	0	10 P1	2J	35	2.15	10 P1
	APPROACH	2J	31	4.41	10 P1	2J	33	5.76	10 P2
		2J	18	7.11	10 P1				10
180040	SET EADI FOR STATUS	2J	32	0	10 P1	2J	35	2.15	10 P1
	APPROACH	2J	29	4.41	10 P1	2J	33	5.76	10 P2
		2J	18	7.11	10 P1				10
180041	FLIGHT INSTRUMENT	2K	14	0	10 P2	2K	46	0	10 P1
	SCAN -A1, PILOT	2K	33	0	10 P1	2J	13	0	10 P2
		2J	14	0	10 P2	2J	01	0	10 P2
		2J	19	0	10 P2	3A	10	0	10 P1
180042	FLIGHT INSTRUMENT	2K	14	0	10 P3	2K	46	0	10 P2
	SCAN -A2, PILOT	2K	33	0	10 P2	2J	13	0	10 P3
		2J	14	0	10 P3	2J	01	0	10 P3
		2J	19	0	10 P3	3A	10	0	10 P3
180043	FLIGHT INSTRUMENT	2J	15	0	10 P2	2J	13	0	10 P3
	SCAN - FINAL APP	2J	14	0	10 P3	2J	01	0	10 P3
		2J	38	0	10 P3	2J	39	0	10 P3
		2J	19	0	10 P3	3A	10	0	10 P3
		7F	33	0	10 P3	7F	34	0	10 P3
180044	FLIGHT INSTRUMENT	2K	14	0	10CP2	2K	46	0	10CP1
	SCAN -A1, COPILOT	2K	33	0	10CP1	2J	13	0	10CP2
		2J	14	0	10CP2	2J	01	0	10CP2
		2J	19	0	10CP2	3A	10	0	10CP1
180045	FLIGHT INSTRUMENT	2K	14	0	10CP3	2K	46	0	10CP2
	SCAN -A2, COPILOT	2K	33	0	10CP2	2J	13	0	10CP3
		2J	14	0	10CP3	2J	01	0	10CP3
		2J	19	0	10CP3	3A	10	0	10CP3
180046	FLIGHT INSTRUMENT	2K	14	0	10 P4	2K	46	0	10 P3
	SCAN -A1, PILOT	2K	33	0	10 P3	2J	13	0	10 P4
		2J	14	0	10 P4	2J	01	0	10 P4
		2J	19	0	10 P4	3A	14	0	10 P2
180047	FLIGHT INSTRUMENT	2K	14	0	10CP4	2K	46	0	10CP3
	SCAN -A1, COPILOT	2K	33	0	10CP3	2J	13	0	10CP4
		2J	14	0	10CP4	2J	01	0	10CP4
		2J	19	0	10CP4	3A	14	0	10CP2
180050	REACH 190 KIAS				10				10
180051	REACH 180 KIAS. AGCS				10				10
	BEGINS PROGRAMMED				10				10
	DESCENT TO 6000 FT				10				10
180052	DESCEND THRU 10000	7G	17	0	10CP2				10
	FT				10				10
180053	LEVEL OFF AT 6000 FT				10				10
180054	SET NAV-1 TO RWY 08	5W	01	0	10CP3	5W	02	0	10CP2

	MLS	5W	03	2.37	10CP2					10
180055	SET NAV-2 TO RWY 08	5X	01	0	10CP3	5X	02	0		10CP2
	MLS	5X	03	2.95	10CP2					10
180056	SET NAV-3 TO RWY 08	5Y	01	0	10CP3	5Y	02	0		10CP2
	MLS	5Y	03	3.12	10CP2					10
180057	CROSS WPT STAR03.				10					10
	AGCS BEGINS PROGRAM-				10					10
	MED TURN TO HDG 180				10					10
	AND DESCENT TO 3600				10					10
	FT				10					10
180058	TURN COMPLETED - ON				10					10
	HDG 180				10					10
180059	LEVEL OFF AT 3600FT				10					10
	AGCS BEGINS PROGRAM-				10					10
	MED DECELERATION TO				10					10
	160 KIAS				10					10
180060	REACH 170 KIAS				10					10
180061	REACH 160 KIAS				10					10
180062	AGCS BEGINS PROGRAM-				10					10
	MED TURN TO HDG 090.				10					10
180063	TURN COMPLETED - ON				10					10
	HDG 090. CROSS WPT				10					10
	STAR04 -LAKESIDE				10					10
	AGCS BEGINS PROGRAM-				10					10
	MED DECELERATION TO				10					10
	135 KIAS.				10					10
180064	HANDOFF TO ATLANTA	1R	34	0	10 *4	1P180001		0		10 *1
	TOWER -119.5	1P180002		4	10 *1	1R	37	5		10CP4
		1R	25	5	10CP3	1P180003		5		10CP1
					10	1R	07	15		10CP3
		1R	08	15	10CP4	1R	09	17.9		10CP2
		1R	06	19.48	10CP2	1R	28	21		10CP2
		1R	38	21	10CP3	1P160038		21		10CP1
		1P160039		25	10CP1	1R	32	25		10 *4
		1P160040		25	10 *1	1P160041		30		10 *1
180065	BEGIN 6 DEG FIRST				10					10
	SEGMENT MLS APPROACH				10					10
	DESCENT.				10					10
180066	REACH 135 KIAS				10					10
180067	TRANSITION TO 3 DEG				10					10
	SECOND SEGMENT MLS				10					10
	APPROACH DESCENT				10					10
180068	TRANSITION COMPLETE.				10					10
	REACH 130 KIAS.				10					10
180069	CROSS END OF RWY 08				10					10
	-WPT STAR05				10					10
180070	FLIGHT INSTRUMENT	2K	14	0	10 P2	2K	46	0		10 P1
	SCAN -A1, PILOT	2K	33	0	10 P1	2J	05	0		10 P2
		2J	04	0	10 P2	2J	01	0		10 P2
		2J	19	0	10 P2	3A	10	0		10 P1
180071	FLIGHT INSTRUMENT	2K	14	0	10 P3					
	SCAN -A2, PILOT	2K	33	0	10 P2	2J	13	0		10 P3
		2J	04	0	10 P3	2J	01	0		10 P3
		2J	19	0	10 P3	3A	10	0		10 P3
180072	FLIGHT INSTRUMENT	2J	15	0	10 P2	2J	05	0		10 P3
	SCAN - FINAL APP	2J	04	0	10 P3	2J	01	0		10 P3
		2J	38	0	10 P3	2J	39	0		10 P3
		2J	19	0	10 P3	3A	10	0		10 P3
180073	FLIGHT INSTRUMENT	2K	14	0	10CP2	2K	46	0		10CP1
	SCAN -A1, COPILOT	2K	33	0	10CP1	2J	05	0		10CP2

		2J	04	0	10CP2	2J	01	0	10CP2
		2J	19	0	10CP2	3A	10	0	10CP1
180074	FLIGHT INSTRUMENT SCAN -A2, COPILOT	2K	14	0	10CP3	2K	46	0	10CP2
		2K	33	0	10CP2	2J	05	0	10CP3
		2J	04	0	10CP3	2J	01	0	10CP3
		2J	19	0	10CP3	3A	10	0	10CP3
180075	FLIGHT INSTRUMENT SCAN -A1, PILOT	2K	14	0	10 P4	2K	46	0	10 P3
		2K	33	0	10 P3	2J	05	0	10 P4
		2J	04	0	10 P4	2J	01	0	10 P4
		2J	19	0	10 P4	3A	14	0	10 P2
180076	FLIGHT INSTRUMENT SCAN -A1, COPILOT	2K	14	0	10CP4	2K	46	0	10CP3
		2K	33	0	10CP3	2J	05	0	10CP4
		2J	04	0	10CP4	2J	01	0	10CP4
		2J	19	0	10CP4	3A	14	0	10CP2
18EK00	PILOT INCAPACITATED				10				10
18EK01	RECEIVE INSTRUCTIONS FROM ATC	1R	16	0	10CP1	1P180004		0	10CP1
		1P180005		4	10CP1	1R	24	6	10CP4
		1R	15	6	10CP4	1P180006		6	10CP1
		1R	07	10	10CP3	1R	08	10	10CP4
		1R	09	12.9	10CP2				10
18EK02	CONTACT TOWER FOR FINAL LANDING CLEARANCE.	1R	06	0	10CP3	1R	26	2	10CP2
		1R	38	2	10CP3	1P160038		2	10CP1
		1P160039		6	10CP1	1R	32	8	10CP4
		1P160040		8	10CP1	1P160041		12	10CP1
		1R	27	15	10CP2	1R	36	15	10CP4
		1P160037		15	10CP1				10
18EK03	HANDOFF TO GROUND CONTROL -121.9	1R	32	0	10CP2	1P160087		0	10CP1
		1P160088		3.5	10CP1	1R	23	6	10CP3
		1R	36	6	10CP2	1P160089		6	10CP1
		1R	01	9	10CP3	1R	02	9	10CP2
		1R	03	11.93	10CP2	1R	05	13.51	10CP2
		1R	14	15	10CP4	1R	15	15	10CP3
		1P160090		15	10CP1	1R	34	19	10CP4
		1P160091		19	10CP1	1P160092		22.50	10CP1
		1R	27	24	10CP2	1R	36	24	10CP4
		1P160037		24	10CP1				10
18EK04	HANDOFF TO ATLANTA TOWER -119.5	1R	34	0	10CP4	1P180001		0	10CP1
		1P180002		4	10CP1	1R	37	5	10CP4
		1R	25	5	10CP3	1P180003		5	10CP1
					10	1R	07	15	10CP3
		1R	08	15	10CP4	1R	09	17.9	10CP2
		1R	06	19.48	10CP2	1R	28	21	10CP2
		1R	38	21	10CP3	1P160038		21	10CP1
		1P160039		25	10CP1	1R	32	25	10CP4
		1P160040		25	10CP1	1P160041		30	10CP1
18EK05	FLIGHT INSTRUMENT SCAN - FINAL APP	2J	15	0	10CP2	2J	05	0	10CP3
		2J	04	0	10CP3	2J	01	0	10CP3
		2J	38	0	10CP3	2J	39	0	10CP3
		2J	19	0	10CP3	3A	10	0	10CP3
		7F	33	0	10CP3	7F	34	0	10CP3
200001	SHUTDOWN PROCEDURE-1	4B	08	0	10 P1	4D	27	2.5	10 P1
		4D	29	5	10 P3	7L	01	5.25	10 P1
		7L	02	7.34	10 P1	7B	25	9.43	10 P1
		7M	08	10.06	10 P3	7M	10	13.30	10 P2
		7F	31	15.81	10 P1	7F	32	17.83	10 P2
		7F	33	17.83	10 P2	7F	34	18.27	10 P2
		7G	06	18.71	10 P1	7C	25	20.40	10 P1
		7C	27	21.87	10 P1	7C	31	23.32	10 P1
		7C	35	25.29	10 P1	7C	39	26.75	10 P1
		7C	43	28.20	10 P2				10

200002	SHUTDOWN PROCEDURE-2	7B	71	0	10 P2	7G	34	1.0	10 P1
		7K	08	2.9	10 P1	7K	12	7.12	10 P1
		7J	25	8.26	10 P3	7J	27	9.68	10 P1
		7J	29	12.43	10 P1	7J	31	13.56	10 P1
		7J	33	14.69	10 P1	7J	35	15.82	10 P1
		7J	03	16.96	10 P3	7J	09	18.75	10 P4
		7J	11	20.25	10 P4				10
200003	SHUTDOWN PROCEDURE-3	7A	06	0	10 P3	7A	08	1.46	10 P3
		7A	11	2.92	10 P1	7A	13	3.47	10 P1
		7D	03	4.02	10 P2	7D	32	6.72	10 P3
		7D	20	8.25	10 P2	7D	21	10.25	10 P1
		7D	15	11.25	10 P2	7D	17	12.78	10 P2
		7D	27	14.31	10 P2	7G	26	15.84	10 P1
		4D	41	18.28	10 P2	1F	07	20.90	10 P1
		1F	06	23.34	10 P3	1H	01	25.33	10 P1
		1F	09	27.70	10 P3	1P200040		29.20	10 P1
		1B	29	32.20	10 P4	1F	11	33.50	10 P3
		1P200041		33.50	10 P1	1F	09	38	10 *1
		1P200042		38	10 *1	4D	51	39	10 P1
		7Q	01	41	10 P1	7H	14	43.66	10 P1
		7H	11	45.06	10 P1	1P200005		47	10 P1
		1P	10	47	10CP3				10
200005	SHUTDOWN CHECKLIST-1	8B	02	0	10CP1	8B	03	4	10CP1
		1P200006		6	10CP1	1P	10	6	10 P2
		7C	71	6.7	10 P1	1P200007		8.3	10 P1
		1P	07	8.3	10CP4	8B	03	9.1	10CP1
		1P200008		11.1	10CP1	1P	11	11.1	10 P3
		7B	94	12	10 P1	1P200009		13.44	10 P1
		1P	06	13.44	10CP4	8B	03	14	10CP1
		1P200010		16	10CP1	1P	10	16	10CP1
		1P200011		17	10 P1	1P	07	17	10CP2
200006	SHUTDOWN CHECKLIST-2	8B	03	0	10CP1	1P200012		2	10CP1
		1P	12	2	10 P4	7G	49	3.1	10 P1
		1P200009		4.38	10 P1	1P	06	4.38	10CP4
		8B	03	5	10CP1	1P200013		7	10CP1
		1P	10	7	10 P3	7G	50	8.2	10 P1
		1P200009		9.5	10 P1	1P	06	9.5	10CP4
		8B	03	10	10CP1	1P200014		12	10CP1
		1P	10	12	10 P1	7K	12	13	10 P1
		1P200009		14.2	10 P1	1P	06	14.2	10CP4
200007	SHUTDOWN CHECKLIST-3	8B	03	0	10CP1	1P200015		2	10CP1
		1P	10	2	10 P1	7J	47	3	10 P1
		7J	48	4.47	10 P1	1P200009		5.22	10 P1
		1P	06	5.22	10CP4	8B	03	5.72	10CP1
		1P200016		7.72	10CP1	1P	10	7.72	10 P3
		7J	49	8.92	10 P1	7J	50	10.34	10 P1
		1P200009		11.10	10 P1	1P	06	11.1	10CP4
		8B	03	11.6	10CP1	1P200017		13.6	10CP1
		1P	02	13.6	10 P1	7A	11	15.1	10 P1
		7A	13	15.65	10 P1	1P200009		16.2	10 P1
		1P	06	16.2	10CP4	8B	03	17	10CP1
		1P200018		19	10CP1	1P	14	19	10 P4
		7D	67	21.1	10 P1	7D	68	22.48	10 P1
		7D	64	23.22	10 P1	7D	65	24.53	10 P1
		7D	66	25.3	10 P1	7E	36	26.07	10 P1
		1P200019		26.6	10 P1	1P	16	26.6	10CP3
200008	SHUTDOWN CHECKLIST-4	8B	03	0	10CP1	1P200020		2	10CP1
		1R	10	2	10 P3	1P200009		3.2	10 P1
		1P	06	3.2	10CP3	8B	03	3.7	10CP1
		1P200021		5.7	10CP1	1P	10	5.7	10 P3

		7M	12	6.9	10 P2	7M	13	8.4	10 P2
		1P200009		9.2	10 P1	1P	06	9.2	10CP4
		8B	03	9.7	10CP1	1P200022		11.7	10CP1
		1P	10	11.7	10 P1	4D	49	12.7	10 P1
		1P200009		13.8	10 P1	1P	06	13.8	10CP4
		8B	03	14.3	10CP1	1P200023		16.3	10CP1
		1P	12	16.3	10 P2	6A	17	17.7	10 P1
		1N	18	19.87	10 P1	1P200009		20.93	10 P1
		1P	06	20.93	10CP4				10
200009	SHUTDOWN CHECKLIST-5	8B	03	0	10CP1	1P200024		2	10CP1
		1P	10	2	10 P1	4F	12	3	10 P1
		1P200030		5	10 P1	1P	08	5	10CP3
		8B	03	6.2	10CP1	1P200025		8.2	10CP1
		1P	11	8.2	10 P2	1P200029		9	10 P1
		1P	08	9	10CP4	8B	03	9.6	10CP1
		1P200026		11.6	10CP1	1P	10	11.6	10 P1
		1P200031		12.6	10 P1	1P	06	12.6	10CP3
		8B	03	13.6	10CP1	1P200027		15.6	10CP1
		1R	10	15.6	10 P1	1P200032		16.6	10 P1
		1P	08	16.6	10CP1	8B	03	17.5	10CP1
		1P200033		19.5	10CP1	1P	02	19.5	10 P1
		7H	01	21	10 P1	7H	02	23.81	10 P1
		1P200034		26	10 P1	1P	06	26	10CP1
		8B	03	28.5	10CP1	1P200035		30.5	10CP1
		1P	12	30.5	10 P1				10
200010	SECURING PROCEDURE	7D	06	0	10 P3	7L	11	2.65	10 P4
		8B200001		5	10 P1	7B	55	35	10 P2
		1P200039		38.3	10 P1	1P	10	38.3	10CP3
200011	SHUTDOWN CHECKLIST-6	8B	03	0	10CP1	1P200036		2	10CP1
		1P	10	2	10 P1	1P200009		3	10 P1
		1P	06	3	10CP4	8B	03	3.5	10CP1
		1P200037		5.5	10CP1	1P	10	5.5	10 P1
		1P200009		6.5	10 P1	1P	06	6.5	10CP4
		8B	03	7	10CP1	1P200038		9	10CP1
		1P	16	9	10 P4				10
200012	SCENARIO COMPLETED				10				10
20EK01	SHUTDOWN PROCEDURE - 1A	4B	08	0	10CP2	4D	27	2.5	10CP3
		4D	29	6	10CP4	7L	01	6.54	10CP1
		7L	02	8.63	10CP1	7B	25	10.72	10CP1
		7M	08	11.35	10CP4	7M	10	14.59	10CP3
		7F	31	17.1	10CP1	7F	32	19.12	10CP2
		7F	33	19.56	10CP2	7F	34	20	10CP2
		7G	06	20.44	10CP2	7C	25	22.15	10CP3
		7C	27	24.5	10CP3	7C	31	25.95	10CP4
		7C	35	27.54	10CP3	7C	39	28.93	10CP2
		7C	43	30.38	10CP2				10
20EK02	SHUTDOWN PROCEDURE-2A	7B	71	0	10CP3	7G	34	1.8	10CP3
		7K	08	3.7	10CP1	7K	12	7.92	10CP1
		7J	25	9.06	10CP2	7J	27	10.48	10CP2
		7J	29	11.90	10CP1	7J	31	13.03	10CP1
		7J	33	14.16	10CP1	7J	35	15.29	10CP1
		7J	37	16.43	10CP1	7J	39	17.57	10CP1
		7J	03	18.71	10CP1	7J	09	20.50	10CP1
		7J	11	22	10CP1				10
20EK03	SHUTDOWN PROCEDURE - 3A	7D	03	0	10CP1	7D	32	2.7	10CP1
		7D	20	4.47	10CP1	7D	21	7.07	10CP1
		7D	15	8.07	10CP1	7D	17	10.47	10CP1
		7D	27	12.87	10CP1	7G	26	15.47	10CP2
		1F	07	17.91	10CP3	1F	06	20.25	10CP1
		1H	01	23.11	10CP2	1F	09	27	10CP3

		1P200040		27	10CP1	1B		29		29	10CP4
		1F	11	29	10CP3	1P200041				29	10CP1
		1F	09	32	10CP1	1P200042				32	10CP1
		4D	51	33	10CP2	7Q	01			36	10CP3
		7H	14	39	10CP1	7H	11			42	10CP1
20EK05	PERFORM SHUTDOWN	8B	02	0	10CP1	8B	03			4	10CP1
	CHECKLIST - 1A	7C	71	6	10CP1	8B	03		7.59		10CP1
		7B	94	9.59	10CP1	8B	03			11	10CP1
		8B	03	13	10CP1	7G	49			15	10CP1
		8B	03	16.28	10CP1	7G	50		18.28		10CP1
		8B	03	19.56	10CP1	7K	12		21.56		10CP1
		8B	03	22.7	10CP1	7J	47		24.7		10CP1
		7J	48	26.17	10CP1	8B	03		26.92		10CP1
		7J	49	28.92	10CP1	7J	50		30.35		10CP1
20EK06	PERFORM SHUTDOWN	8B	03	0	10CP1	7A	11			2	10CP1
	CHECKLIST - 2A	7A	13	2.55	10CP1	8B	03			3.1	10CP1
		7D	67	5.1	10CP1	7D	68		6.45		10CP1
		7D	64	7.22	10CP1	7D	65		8.53		10CP1
		7D	66	9.3	10CP1	7D	36		10.07		10CP1
		8B	03	10.61	10CP1	8B	03		12.61		10CP1
		7M	12	14.61	10CP2	7M	13		16.11		10CP2
		8B	03	16.89	10CP1	4D	49		18.89		10CP1
20EK07	PERFORM SHUTDOWN	8B	05	0	10CP1	6A	17			2	10CP1
	CHECKLIST - 3A	1N	18	4.17	10CP1	8B	03		5.67		10CP1
		4F	12	7.67	10CP1	8B	03		9.67		10CP1
		8B	03	11.67	10CP1	8B	03		13.67		10CP1
		7H	01	15.67	10CP1	7H	02		18.48		10CP1
		8B	03	20.51	10CP1						10
20EK08	SECURING PROCEDURE-A	7D	06	0	10CP2	7L	11		2.49		10CP1
		8B200001		6.08	10CP1	7B	55		37		10CP3
20EK09	PERFORM SHUTDOWN	8B	03	0	10CP1	8B	03		2		10CP1
	CHECKLIST - 4A	8B	03	4	10CP1						10
20EK10	SCENARIO COMPLETED				10						10
230001	TURN OFF OF RWY 08	4M	05	0	10 P1	8A	08		0		10 P2
	ONTO TAXIWAY D AND	4B	03	10	10 P1	4M	04		15		10 P4
	TAXI TO RAMP	4D	28	1 08	10 P2	4B	08	1	08		10 P1
230002	AFTER LNDG PROC.	4F	01	1	10 P4	7E	16		0		10CP3
		7M	17	3	10CP1	7M	18		5.5		10CP1
		7L	13	4	10 P4	7G	16		8.5		10CP2
		6A	09	10	10CP1	1N	01		12.37		10CP1
		4F	12	14.30	10CP1	4E	06		16.30		10CP3
		7B	24	6.5	10 P1						10
		7B	34	7.2	10 P3	7B	25		7.8		10 P1
230003	TURN OFF TAXIWAY D	8A	02	0	10 P2						10
	ONTO RAMP AND TAXI	4B	03	5	10 P4	4M	04		0		10 P1
	TO ARRIVAL GATE	4D	28	2 20	10 P2	4B	08	2	20		10 P1
230004	TAXI UP TO GATE	4M	01	0	10 P4	4B	03		0		10 P4
23EK01	TURN OFF OF RWY 08	4M	03	0	10CP4	8A	07		0		10CP2
	ONTO TAXIWAY D AND	4B	07	10	10CP1	4M	04		13		10CP4
	TAXI TO RAMP. - A	4D	28	1 18	10CP1	4B	07	1	12		10CP1
23EK02	AFTER LANDING PROC -	7E	16	0	10CP3	7M	17		3		10CP1
	A	7M	18	5.5	10CP1	7L	22		7		10CP1
		7G	16	8.5	10CP2	6A	09		10		10CP1
		1N	01	12.37	10CP1	4F	12		14.3		10CP1
		4E	06	16.3	10CP3	7B	34		19		10CP1
		7B	25	20.75	10CP1						10
23EK03	TURN OFF OF TAXIWAY	4D	28	0	10CP1	8A	07		0		10CP3
	D AND ONTO RAMP AND	4B	07	5	10CP1	4M	04		5		10CP1
	TAXI TO GATE - A				10	4B	08	2	26		10CP2
23EK04	TAXI UP TO GATE	4M	03	0	10CP4	4B	07		0		10CP1

		8A	07	0	10CP4				10
DUMMY	DUMMY PROCEDURE	8F	DUMMY	1	10 *1				10
TASKS									
1A	01 MON VHF-1L FREQ IND	1	.76	90			5		
		2	4.03	90			5		
		3	4.09	90			5		
1A	02 SET VHF-1L FREQ -	1	2.05	10		100	5		P
	WHOLE NO.S	2	2.98	10	100		5		CP
		3	2.05	10	100		5		CP
1A	03 SET VHF-1L FREQ -	1	1.98	10	100		5		CP
	FRACTIONS	2	1.98	10		100	5		
1A	04 ADJ VHF-1 VOLUME	1	2.08	10	100		5		CP
		2	2.11	10		100	5		P
1A	05 SET VHF-1 COMM TFR	1	2.39	20		100	5		
	SW TO LEFT	2	1.43	20		100	5		
		3	2.39	20	100		5		
		4	1.43	20	100		5		
1A	06 SET VHF-1 COMM TFR	1	2.39	100	100		5		
	SW TO RIGHT	2	1.43	100	100		5		
		3	2.30	100		100	5		
		4	1.43	100		100	5		
1A	07 MON VHF-1R FREQ IND	1	.76	90			5		
		2	4.86	90			5		
		3	4.96	90			5		
		4	3.99	90			5		
1A	08 SET VHF-1R FREQ.	1	2.98	10		100	5		
	WHOLE NO.S	2	2.01	10		100	5		
		3	2.98	10	100		5		
		4	2.01	10	100		5		
1A	09 SET VHF-1R FREQ -	1	1.98	10	100		5		CP
	FRACTIONS	2	1.98	10		100	5		
		3	2.11	10		100	5		P
1A	10 ACT PUSH-TO-TALK SW	1	3.5			100	5		
		2	5.0			100	5		
		3	1.7			100	5		
		4	2			100	5		
1A	11 COMM VIA VHF-1	1	5.						
		2	12.						
		3	1.7						
		4	7.						
1A	12 COMM VIA VHF-1	1	3.5						
		2	3.0						
		3	6						
1A	14 MON VHF-1 COMM AUDIO	1	17.						
		2	6.						
		3	7.						
		4	3.						
1A	15 MON VHF-1 COMM AUDIO	1	5.						
		2	4.						
		3	24						
		4	2.5						
1A	17 SET COMM 2 VHF-1	1	2.39	100	100				CP
	COMM RECVR SW TO ON	2	1.52	100	100		5		P
		3	2.09	100		100	5		P
		4	1.60	100		100	5		CP
1A	18 SET COMM 2 VHF-1	1	2.39	100		100	5		
	COMM RCVR SW TO OFF	2	1.52	100		100	5		
		3	2.09	100	100		5		
		4	1.60	100	100		5		
1A	19 SET COMM 2 MIC SEL	1	2.86	100	100		5		CP

		SW TO VHF-1	2	1.99	100		100	5	P
			3	2.92	100		100	5	P
			4	1.99	100	100		5	
1A	20	ACT COMM 2 PTT SW	1	1.42	20		100	5	
			2	1.50	20		100	5	
			3	1.42	20	100		5	
			4	2.35	20	100		5	
1A	21	SET COMM BOOM/OXY SW TO BOOM	1	1.50	100		100	5	
								5	
1A	22	SET COMM 2 BOOM/OXY SW TO OXY	1	1.50	100		100	5	
			2	2.35	100		100	5	1A
1A	23	ADJ COMM 2 MIC VOL	1	2.04	10		100	5	
1A	24	ACT COMM 2 PUSH-TO-TALK SW	1	6.42	10	100		5	
			2	13.42	10	100		5	
			3	3.12	10	100		5	
1A	25	ACTUATE COMM 2 PUSH-TO-TALK SW	1	7.	10		100	5	
			2	1.7	10		100	5	
			3	2.35	10		100	5	
			4	3.0	10		100	5	
1A	26	ACT B/O PTT SW	1	1.0	10		100	5	
			2	1.5	10		100	5	
			3	2.0	10		100	5	
			4	2.5	10		100	5	
1A	27	ACT B/O PTT SW	1	3.0	10		100	5	
			2	3.5	10		100	5	
			3	4.0	10		100	5	
			4	4.5	10		100	5	
1A	28	ACT B/O PTT SW	1	1.0	10	100		5	
			2	1.5	10	100		5	
			3	2.0	10	100		5	
			4	2.5	10	100		5	
1A	29	ACT B/O PTT SW	1	3.0	10	100		5	
			2	3.5	10	100		5	
			3	4.0	10	100		5	
			4	4.5	10	100		5	
1B	01	MON VHF-2L FREQ IND	1	.76	90			5	
			2	4.88	90			5	
			3	5.03	90			5	
1B	02	SET VHF-2L FREQ-WHOLE NO.S	1	2.20	10	100		5	C
			2	2.90	10	100		5	CP
			3	2.40	10		100	5	P
			4	3.10	10		100	5	
1B	03	SET VHF-2L FREQ - FRACTIONS	1	1.98	10	100		5	CP
			2	1.98	10		100	5	
1B	04	ADJ VHF-2 VOLUME	1	2.00	10	100		5	C
			2	2.09	10	100		5	CP
			3	2.09	10		100	5	P
			4	2.19	10		100	5	
1B	05	SET VHF-2 COMM TFR SW TO LEFT	1	1.45	10		100	5	
			2	2.39	10		100	5	
			3	1.49	10	100		5	
			4	2.39	10	100		5	
1B	06	SET VHF-2 COMM TFR SW TO RIGHT	1	1.45	10	100		5	
			2	2.39	10	100		5	
			3	1.49	10		100	5	
			4	2.39	10		100	5	
1B	07	MON VHF-2R FREQ IND	1	.76	100			5	
			2	4.01	90			5	
			3	4.86	90			5	
1B	08	SET VHF-2R FREQ -	1	2.03	10	100		5	CP

		WHOLE NO.S	2	2.88	10	100		5	CP
			3	2.03	10		100	5	
			4	2.98	10		100	5	
1B	09	SET VHF-2R FREQ -	1	1.98	10	100		5	
		FRACTIONS	2	1.98	10		100	5	
1B	10	SET COMM 2 MIC-SEL	1	2.86	100		100	5	
		SW TO VHF-2	2	1.99	100	100		5	
			3	2.92	100	100		5	
1B	11	SET COMM 2 VHF-2	1	2.09	100		100	5	P
		COMM RECVR SW TO ON	2	1.52	100		100	5	P
			3	2.39	100	100		5	CP
			4	1.44	100	100		5	CP
1B	12	SET COMM VHF-2 COMM	1	2.39	100		100	5	
		RCVR SW TO OFF	2	1.44	100		100	5	
			3	2.09	100	100		5	
			4	1.52	100	100		5	
1B	13	ACT COMM 2 PTT SW	1	1.42	10		100	5	
			2	2.30	10		100	5	
			3	1.42	10	100		5	
			4	3.50	10	100		5	
1B	14	ACT PUSH-TO-TALK SW	1	4.8			100	5	
		ON HANDGRIP	2	2.5			100	5	
			3	1.5			100	5	
			4	1.7			100	5	
1B	15	COMM VIA VHF-2	1	4.8					
			2	2.5					
			3	1.5					
			4	1.7					
1B	16	COMM VIA VHF-2	1	3.5					
			2	2.3					
			3	4.5					
			4	2.8					
1B	17	COMM VIA VHF-2	1	7.0					
			2	5.0					
			3	4.0					
			4	6.0					
1B	18	MON VHF-2 COMM AUDIO	1	30.					
			2	2.5					
			3	6.0					
			4	3.5					
1B	19	MON VHF-2 COMM AUDIO	1	3.2					
			2	7.0					
			3	6.2					
			4	10.					
1B	20	MON VHF-2 COMM AUDIO	1	5.					
			2	5.5					
			3	1.7					
			4	3					
1B	21	SET COMM 2 BOOM/OXY	1	1.50	100		100	5	
		SW TO BOOM	2	2.42	100		100	5	
			3	1.47	100	100		5	
			4	1.47	100	100		5	
1B	22	SET COMM 2 BOOM/OXY	1	1.40	100			5	
		SW TO CXY	2	1.47	100			5	
			3	1.50	100			5	
			4	2.42	100			5	
1B	23	ADJ COMM 2 MIC VOL	1	1.97	10	100		5	CP
			2	2.04	10		100	5	
1B	24	ACT PUSH-TO-TALK SW	1	4.5			100	5	
		ON CONTROL HANDGRIP	2	2.8			100	5	

			3	6.2			100		5			
			4	3.5			100		5			
1B	25	ACT PUSH-TO-TALK SW ON CONTROL HANDGRIP	1	5			100		5			
			2	4			100		5			
			3	6			100		5			
			4	4.2			100		5			
1B	26	ACT PUSH-TO-TALK SW ON CONTROL HANDGRIP	1	7			100		5			
			2	3			100		5			
			3	10			100		5			
			4	7.5			100		5			
1B	28	ACTUATE COMM 2 PUSH-TO-TALK SW	1	5.0			100		5			
			2	6.0			100		5			
			3	4			100		5			
			4	4.25			100		5			
1B	29	ACTUATE COMM 2 PUSH-TO-TALK SW	1	1.7			100		5			
			2	3.5			100		5			
			3	1.5			100		5			
			4	3			100		5			
1B	32	COMM VIA VHF-2	1	4.2								
			2	3								
			3	10								
			4	7.5								
1B	33											
1B	34											
1B	35											
1B	36	MONITOR VHF-2 COMM AUDIO	1	11								
			2	2								
			3	12								
			4	6.5								
1B	37	MONITOR VHF-2 COMM	1	16								
			2	4								
			3	15								
			4	3.7								
1B	38	ACC CNTL WHEEL COMM SWITCH	1	8.3		100			5			
									5			
1B	39	COMM VIA VHF-2	1	8.3					5		100	
									5			
		AUDIO	2	4					5			
			3	15					5			
			4	3.7					5			
1F	01	MON COCKPIT CALL CHIME	1	1.00					5	100		
									5			
1F	02	MON COCKPIT CALL ANNUN LT ON	1	.71	100				5			P
									5			
1F	03	ACT ATTENDANT CALL SW	1	2.35	100		100		5			P
									5			
1F	04	SET SERVICE INTPHN SW TO ON	1	2.92	100		100		5			P
									5			
1F	05	SET SERVICE INTPHN SW TO OFF	1	2.92	100		100		5			
									5			
1F	06	SET COMM 2 MIC SEL SW TO INT	1	2.86	100	100			5			CP
			2	2.92	100		100		5			P
			3	1.99	100		100		5			P
1F	07	SET COMM 2 INT COMM RECVR SW TO ON	1	2.44	100		100		5			
			2	1.55	100	100			5			
			3	2.34	100	100			5			
1F	08	SET COMM 2 INT COMM RECVR SW TO OFF	1	2.44	100		100		5			
			2	1.55	100	100			5			
			3	2.34	100	100			5			
1F	09	MON INT COMM AUDIO	1	.8					5			

			2	.9				5			
			3	1.5				5			
1F	10	MON INT COMM AUDIO						5			
1F	11	INTPHN COMM	1	1.4				5			
			2	1.3				5			
			3	1.3				5			
1G	01	SET COMM 1 PA COMM RECVR SW TO ON	1	1.41	100		100	5			P
			2	1.45	100		100	5			
1G	02	SET COMM 2 PA COMM RECVR SW TO OFF	1	1.41	100	100		5			
			2	1.97	100		100	5			
1G	03	SET COMM 2 MIC SEL SW TO PA	1	2.32	100		100	5			
			2	2.92	100		100	5			P
			3	1.99	100		100	5			P
1G	04	ACTUATE HANDMIKE SW FOR PUBLIC ADDRESS ANNOUNCEMENT						5			
1G	06	PICK UP PA HANDMIKE	1	3.08	100	100		5			CP
			2	2.58	100		100	5			P
			3	5.06	100		100	5			P
1G	07	RETURN PA HANDMIKE TO CRADLE	1	3.08	100	100		5			
			2	2.58	100		100	5			
			3	5.06	100		100	5			
1G	08	SET COMM 2 PA COMM RECVR SW TO ON	1	1.41	100	100		5			CP
1G	09	SET COMM 2 PA COMM RECVR SW TO OFF	1	1.41	100	100		5			
1G	10	SET COMM 2 MIC SEL SW TO PA	1	2.86	100	100		5			CP
1G	11	PRESS COMM 2 PRESS-TO-TALK SW FOR PA	1	1.42	100	100		5			CP
			2	1.42	100		100	5			P56
1G	12	SET COMM RCVR SW ON	1	1.41	50		100	5			
1G	13	SET COMM RCVR SW ON	1	2.5	50	100		5			
			2	3.0	50	100		5			
			3	2.5	50		100	5			
			4	3.0	50		100	5			
1H	01	ACTUATE GRD CALL SW	1	2.37	20		100	5			P
			2	2.37	20	100		5			
1J	01	ACTUATE VOICE REC TEST SW	1	1.49	100	100		5			CP
1J	02	MON VOICE REC	1	2.03	100			5			CP
1M	01	MON VHF 1 SELCAL LT ON	1	.53	100			5			P
			2	1.05	100			5			CP
1M	02	MON VHF 2 SELCAL LT ON	1	1.71	100			5			CP
			2	1.05	100			5			CP
1M	03	MONITOR SELCAL CHIME	1	1.00				5	100		
1M	04	COMM VIA SELCAL						5			
1M	05	PUSH VHF 1 SELCAL TEST/RESET SW	1	2.22	100		100	5			P
			2	2.30	100	100		5			CP
1M	06	PUSH VHF 2 SELCAL TEST/RESET SW	1	2.22	100	100		5			CP
1N	01	SET ATC FUNCTION SEL SW TO OFF	1	1.93	100	100		5			CP
1N	02	SET ATC FUNCTION SEL SW TO STDBY	1	1.93	100	100		5			
			2	1.93	100		100	5			1N
1N	03	SET ATC FUNCTION SEL SW TO ON	1	1.93	100	100		5			
1N	04	SET ATC FUNCTION SEL SW TO LO SENS	1	1.93	100	100		5			
1N	05	SET ATC IDENT CODE	1	2.80	10	100		5			C
			2	2.04	10	100		5			CP3

1N	06	MON IDENT CODE INDIC	1	.77	100			5			CP
			2	2.04	90			5			
			3	2.80	90			5			
1N	07	PRESS ATC IDENT SW	1	2.14	50	100		5			CP
			2	1.41	50	100		5			CP
1N	08	SET ATC MODE SEL SW TO A	1	2.61	100	100		5			CP
1N	09	SET ATC MODE SEL SW TO B	1	2.61	100	100		5			
1N	10	SET ATC MODE SEL SW TO C	1	2.61	100	100		5			
1N	11	SET ATC MODE SEL SW TO D	1	2.61	100	100		5			
1N	12	SET ATC TRANSPONDER SEL TO NO.1	1	1.93	100	100		5			CP
1N	13	SET ATC TRANSPONDER SEL TO NO.2	1	1.93	100	100		5			
1N	14	SET ATC ALT REPTG SOURCE SW TO NO.1	1	1.57	100	100		5			CP
1N	15	SET ATC ALT REPTG SOURCE SW TO NO.2	1	1.57	100	100		5			
1N	16	SET ATC TEST SW TO TEST	1	1.50	80	100		5			CP
1N	17	SET ATC TEST SW TO MONITOR	1	1.50	80	100		5			
1N	18	MON ATC TEST LT ON	1	1.50	20			5			
1P	01	MONITOR INSTRUCTIONS	1					5			
			2					5			
			3					5			
			4					5			
1P	02	MON VERBAL REPORT	1	1.5				5	100		
			2	2.0				5	100		
			3	3.0				5	100		
			4	1.3				5	100		
1P	03	ACKNOWLEGE	1	.50				5		50	
			2					5			
			3					5			
			4					5			
1P	04	MON VERBAL REPORT	1	2.8				5	100		
			2	2.2				5	100		
			3	1.8				5	100		
			4					5			
1P	05	MON VERBAL REPORT	1	5.0				5	100		
			2	6.2				5	100		
			3	4.0				5	100		
			4					5			
1P	06	MON VERBAL REPORT	1	2.50				5	100		
			2	6.0				5	100		
			3	1.0				5	100		
			4	.5				5	100		
1P	07	MON VERBAL REPORT	1	4.5				5	100		
			2	.7				5	100		
			3	2.3				5	100		
			4	.8				5	100		
1P	08	MON VERBAL REPORT	1	.9				5	100		
			2	1.6				5	100		
			3	1.2				5	100		
			4	.6				5	100		
1P	09	MON VERBAL REPORT	1	1.3				5	100		
			2	1.4				5	100		

				3	10		5	100	
				4	1.9		5	100	
1P	10	MON VERBAL REPORT		1	1.0		5	100	
				2	.7		5	100	
				3	1.2		5	100	
				4	.6		5	100	
1P	11	MON VERBAL REPORT		1	.5		5	100	
				2	.8		5	100	
				3	.9		5	100	
				4	1.7		5	100	
1P	12	MON VERBAL REPORT		1	2.5		5	100	
				2	1.4		5	100	
				3	2.2		5	100	
				4	1.1		5	100	
1P	13	MON VERBAL REPORT		1	2.3		5	100	
				2	2.4		5	100	
				3	3.5		5	100	
				4	1.8		5	100	
1P	14	MON VERBAL REPORT		1	1.9		5	100	
				2	.4		5	100	
				3	1.6		5	100	
				4	2.1		5	100	
1P	15	MON VERBAL REPORT		1	2.7		5	100	
				2	3.7		5	100	
				3	4.2		5	100	
				4	3.2		5	100	
1P	16	MON VERBAL REPORT		1	.4		5	100	
				2	.3		5	100	
				3	3		5	100	
				4	1.5		5	100	
1P	17	MON VERBAL REPORT		1	3.5		5	100	
				2	3.7		5	100	
				3	4		5	100	
				4	2		5	100	
1P	18	MON VERBAL REPORT		1	1.1		5	100	
1P	19	MON VERBAL REPORT		1	4		5	100	
				2	1.5		5	100	1P
				3	4.5		5	100	
1P	20	MON VERBAL REPORT		1	2.00		5	100	1P
1PBYRZ01		MON COM- UNITED 24, CONTACT DENVER APRCH ON 128.9>	1	5.0		20	100		
1PBYRZ02		RADIO - DENVER APRCH UNITED 24	1	1.5		20		100	
1PBYRZ03		MON COM- UNITED 24, DENVER, PROCEED TO BYERS DESCEND AND MAINTAIN 13000	1	5.0		20	100		
1PBYRZ04		RADIO - ROGER,UNITED 24 CLEARED TO BYERS AND 13000	1	3.5		20		100	
1PBYRZ05		MON CALL- UNITED 24 DESCEND AND MAINTAIN 12000.	1	3.5		20	100		
1PBYRZ06		RADIO- ROGER UNITED 24 OUT OF 13000 FOR 12000.	1	3.5		20		100	
1PBYRZ07		MON COMM- UNITED 24 DESCEND AND MAINTAIN 11000.	1	3.5		20	100		

1PBYRZ08	RADIO- ROGER UNITED 24 CLEARED TO 11000	1	2.0	20		100
1PBYRZ09	MON COMM- UNITED 24 REDUCE SPEED TO 250 KNOTS.	1	3.0	20	100	
1PBYRZ10	RADIO- UNITED 24, ROGER, SLOW TO 250	1	2.5	20		100
1PBYRZ11	MON COMM- UNITED 24, REDUCE SPEED TO 200 KNOTS.	1	3.0	20	100	
1PBYRZ12	RADIO- UNITED 24, ROGER, SLOW TO 200	1	2.5	20		100
1PBYRZ13	MON COMM- UNITED 24, CONTACT DENVER LOCAL CONTROL ON 118.3	1	5.0	20	100	
1PBYRZ14	RADIO- UNITED 24, ROGER, LOCAL CONTROL ON 118.3	1	4.0	20		100
1PBYRZ15	RADIO- DENVER LOCAL UNITED 24	1	1.5	20		100
1PBYRZ16	MSG- UNITED 24 TURN RIGHT HEADING 350 REDUCE TO APPROACH SPEED (150KTS)	1	6.0	20	100	
1PBYRZ17	RADIO- UNITED 24, ROGER, RIGHT TO 350 SLOW TO APPROACH SPD	1	5.0	20		100
1PBYRZ18	MSG- UNITED 24, CLEARED DIRECT TO APRCH GATE, CONTACT TOWER AT OM 120.0	1	6.0	20	100	
1PBYRZ19	RADIO- ROGER UNITED 24 CLEARED DIRECT TO THE GATE, TOWER AT O .M 120.0	1	6.0	20		100
1PLNDCL1	RADIO COMM - ¢U24, ROGER!	1	1.7	10		100
1PLNDCL2	RADIO COMM-¢DENVER TOWER, THIS IS U 24 OVER THE GATE INBOUND FOR LNDNG	1	4.0	10		100
1PLNDCL3	ZERO EIGHT, OVER!	1	1.0	10		100
1PLNDCL4	MON RADIO COMM - ¢UNITED 24, DENVER TOWER, ROGER. CLEAR TO LAND RUNWAY TWO	1	4.0	10	100	
1PLNDCL5	SIX . WIND TWO ONE ZERO DEGREES AT ZERO NINER.!	1	3.0	10	100	
1PLNDCL6	CALL OUT-¢ALTIMETER BARO SETTING IS TWO NINER POINT EIGHT FOUR!	1	3.5	10		100
1PLMNT01	MSG- UNITED 76, CONTACT DENVER APRCH CNTRL ON 128.05	1	4.5	20	100	
1PLMNT02	COM- UNITED 76,ROGER - DENVER APRCH 12805	1	3.0	20		100
1PLMNT03	COM- DENVER APRCH UNITED 76	1	3.0	20		100

1PLMNT04	MSG- UNITED76,DENVER , PROCEED TO LNGMNT DESCEND MAINTAIN 16000	1	5.0	20	100	
1PLMNT05	COM- UNITED76 ROGER OUT OF 17-5 FOR 1600 0	1	3.0	20		100
1PLMNT06	MSG- UNITED76 DSCND MAINTAIN 15000	1	3.0	20	100	
1PLMNT07	COM- UNITED76 ROGER DESCEND TO 15000	1	3.0	20		100
1PLMNT08	MSG- UNITED76 HOLD AT LONGMOUNT, EXPECT FURTHER CLEARANCE AT 16:40	1	5.0	20	100	
1PLMNT09	COM- UNITED76 ROGER HOLD LONGMONT FURTHE R CLEARANCE 16:40	1	4.5	20		100
1PLMNT10	MSG- UNITED76 DSCND MAINTAIN 14000	1	3.0	20	100	
1PLMNT11	COM- UNITED76 ROGER CLEARED TO 14000	1	3.0	20		100
1PLMNT12	MSG- UNITED76 REDUCE SPEED TO 250KTS	1	3.0	20	100	
1PLMNT13	MSG- UNITED76 HOLD AT LONGMONT EXPECT FURTHER CLEARANCE AT 16:40:42	1	5.5	20	100	
1PLMNT14	COM- UNITED76 ROGER HOLD LONGMONT EXPECT FURTHER CLEARANCE AT 16:40:42	1	5.5	20		100
1PLMNT15	MSG- UNITED76 INCRSE SPEED TO 220KTS DSCND MAINTAIN 11000	1	4.5	20	100	
1PLMNT16	COM- UNITED76 ROGER DESCEND MAINTAIN 11000 SPEED 220	1	4.0	20		100
1PLMNT17	MSG- UNITED76 REDUCE SPEED TO 1 KTS	1	3.0	20	100	
1PLMNT18	COM- UNITED76 ROGER SLOW TO 170	1	2.5	20		100
1PLMNT19	MSG- UNITED76 CONTCT DENVER LOCAL CONTROL ON 118.3	1	3.5	20	100	
1PLMNT20	COM- UNITED76 ROGER CONTACT DENVER LOCAL 118.3	1	3.5	20		100
1PLMNT21	MSG- UNITED76 FLY DIRECT TO ALTURA	1	3.0	20	100	
1PLMNT22	COM- UNITED76 ROGER DIRECT TO ALTURA	1	3.0	20		100
1PLMNT23	MSG- UNITED76 FLY DIRECT TO APPROACH GATE	1	3.5	20	100	
1PLMNT24	COM- UNITED76 ROGER DIRECT TO GATE	1	3.0	20		100
1PLMNT25	MSG- UNITED76 REDUCE TO APPROACH SPEED CONTACT TWR AT O.M.	1	5.5	20	100	

	ON120.0					
1PLMNT26	COM- UNITED76 ROGER SLOW TO APPROACH SPD CONTACT TOWER 120.0 AT O.M.	1	5.5	20	100	
1P00IV01	CALL-OUT TRAFFIC SITUATION NORMAL	1	2	10 10	100	
1P00IV02	CALL-OUT TRAFFIC CONFLICT X O'CLOCK	1	2	10 10	100	
1PXXXX01	CALLOUT - GET THE CHECKLIST	1	1.5	10 10	100	
1PXXXX02	RPT- CHKLST COMP	1	1.0	10	100	
1PXXXX03	RPT- ON	1	.5	10	100	
1PXXXX04	RPT- OFF	1	.5	10	100	
1PXXXX05	RPT- SET	1	.5	10	100	
1PXXXX06	RPT- SET AND CHKD	1	1.0	10	100	
1P00BA01	CALL OUT- FUEL HEAT VALVE CHKLST	1	2.3	10 10	100	
1P00BA02	READ ITEM- ENGINE OIL TEMP LMTS	1	2.0	10 10	100	
1P00BA03	CALL OUT- OIL TEMP O K	1	1.5	10 10	100	
1P00BB01	CALL OUT- MINIMUM FUEL GO-AROUND	1	1.5	10 10	100	
1P00BB02	REPORT- MIN FUEL GO-AROUND CHKLST	1	1.5	10 10	100	
1P00BB03	CALL OUT- FUEL PUMPS	1	1.0	10 10	100	
1P00BB04	REPORT- PUMPS ON	1	1.0	10		
1P00BB05	CALL OUT- FUEL CROSSFEED SELECTOR	1	2.0	10 10		
1P00BB06	REPORT OPEN	1	.5	10	100	
1P00BB07	REPORT AVOID SUSTAIN -ED HIGH NOSE-UP ATTITUDES	1	2.3	10 10 10	100	
1P00BB08	ACKNOWLEDGE ROGER AVOID SUSTAINED HIGH NOSE-UP ATTITUDES	1	2.5	10 10 10	100	
1P00BC01	RPT- FILTER ICING CHKLST	1	1.5	10 10	100	
1P00BC02	READ- FUEL HEAT SW	1	1.0	10	100	
1P00BD01	RPT- FUEL GAGES SHOW FUEL XFR PROBLEM, GET CHKLST	1	2.8	10 10 10	100	
1P00BD02	RPT- INADVERTENT XFR OF FUEL TO CNTR TANK CHKLST	1	2.5	10 10 10	100	
1P00BD03	READ- AFFECTED MAIN BOOST PUMPS	1	1.6	10 10	100	
1P00BD04	READ- CNTR TANK BOOST PUMPS	1	2.2	10 10	100	
1P00BD05	READ- RESET CIRCUIT BREAKER IF NECESSARY	1	2.4	10 10	100	
1P00BD06	RSPND- ROGER RESET CIRCUIT BREAKER IF NEEDED	1	2.6	10 10 10	100	
1P00BD07	READ- MAIN TANK BOOST PUMPS	1	1.3	10 10	100	
1P00BD08	READ- XFEED VALVE REMAINS CLOSED	1	2.0	10 10	100	

1P00BD09	RSPND- ROGER XFEED VALVE CLOSED	1	2.0	10	100
1P00CB01	RPT- CSD LOW PRESS/ HIGH TEMP LT CHKLST	1	3.0	10	100
1P00CB02	READ- GENERATOR DRIVE DISCONNECT SW	1	2.0	10	100
1P00CB03	RPT- DISCONNECT	1	.5	10	100
1P00CB04	READ- APU	1	1.0	10	100
1P00CB05	RPT- APU GEN START AND ON BUS	1	1 8	10	100
1P00CD01	RPT- STDBY POWER LT OFF CHKLST	1	1.8	10	100
1P00CD02	READ- STDBY PWR SW	1	1.5	10	100
1P00CD03	RPT- BATTERY	1	.5	10	100
1P00CE01	RPT- BUS OFF LT CHKLST	1	1.5	10	100
1P00CE02	READ- GENERATOR SW	1	1.0	10	100
1P00CE03	READ- IF LT TRIPS ON AGAIN APU START AND ON BUS	1	2.5	10	100
1P00CE04	RSPND- ROGER APU ON BUS IF GEN NOT RESET	1	2.2	10	100
1P00CE05	RPT- GENERATOR RESET TO ON	1	1.2	10	100
1P00CF01	RPT- XFR BUS OFF LT CHKLST	1	2.0	10	100
1P00CF02	READ- XFR BUS SW RESET TO AUTO	1	2.5	10	100
1P00CF03	RPT- SW RESET	1	1.0	10	100
1P00CG01	RPT- EQUIPMENT COOL- ING OFF LT CHKLST	1	2.5	10	100
1P00CG02	READ- EQUIP COOLING SW TO ALT	1	1.8	10	100
1P00CG03	RPT- COOLING SW ALT	1	1.5	10	100
1P00DA01	RPT- LOSS HYDRAULIC SYSTEM-A CHKLST	1	2.0	10	100
1P00DA02	READ- SYS-A FLT CNTRLS - STDBY RDR	1	3.0	10	100
1P00DA03	RPT- FLT CNTRL A ON STDBY	1	2.0	10	100
1P00DA04	READ- HYD PUMPS OFF	1	2.0	10	100
1P00DA05	READ- AUTOPILOT HYD SYS SELECT SYS-B	1	3.0	10	100
1P00DA06	RPT- AUTO ON SYS-B	1	2.0	10	100
1P00DA07	ADVISE- GROUND SPOIL ERS AND NOSE WHEEL STEING ARE INOP	1	3.5	10	100
1P00DA08	THRUST REVERSERS HAVE ACCUMULATOR PRESSURE INBOARD BRAKES HAVE	1	3.5	10	100
1P00DA09	ACCUMULATOR PRESSURE CHECK WEATHER, PLAN FLAPS 15 LANDING	1	3.5	10	100
1P00DA10	RPT- ROGER GROUND AND INBD FLT SPOILER OUT. ACCUMULTOR PRESSURE FOR THRUST	1	4.0	10	100
1P00DA11	REVERSER AND INBOARD BRAKES. PLAN FOR	1	4.0	10	100

	FLAPS 15 LANDING.			10		
1P00EC01	READ- PREPARE FOR LOSS OF ALL BUT STBY PWR AND FOR USE OF MANUAL TRIM	1	5.0	10 10 10 10	10	100
1P00EC02	READ- PITOT STATIC HEAT WILL BE INOP	1	2.0	10 10	10	100
1P00EC03	ADVISE- ROGER, LOSS OF GENERATORS POSSIB LE WITH ONLY STDBY AND BATT AVAILABLE	1	4.5	10 10 10 10	10	100
1P00EC04	UNDERSTAND ELEC TRIM OUT AND PITOT HEAT WILL BE INOP	1	3.5	10 10 10	10	100
1P00EC05	READ- BUS XFR SW OFF	1	2.0	10	10	100
1P00EC06	READ- WAIT A REASON- ABLE TIME TO DETERMI NE WETHER TO FOLLOW STEP A OR B BELOW	1	4.5	10 10 10 10	10	100
1P00EC07	RESTORE POWER SLOWLY NOTING IF SMOKE OCCU RS AND MONITOR ELEC LOADS	1	5.0	10 10 10 10	10	100
1P00EC08	ADVISE- ROGER, RESTO RE POWER SLOWLY MON- ITORING FOR SMOKE AND ELEC LOADS	1	3.0	10 10 10 10	10	100
1P00EC09	READ- NO.2 GEN SW ON	1	2.0	10	10	100
1P00EC10	READ- IF SMOKE DOES NOT RECURR CONTINUE WITH NO.1 GEN OFF. ENG NO.1 RVRSR INOP	1	6.2	10 10 10 10	10	100
1P00EC11	ADVISE-ROGER IF SMOK DIES LEAVE GEN#1 OFF ENG#1 RVRSR INOP	1	4.5	10 10 10	10	100
1P00EC12	READ- NO.1 GEN SW ON	1	2.0	10	10	100
1P00EC13	READ-NO.2 GEN SW OFF	1	2.0	10	10	100
1P00EC14	ADVISE- GEN#1 ON BUS GEN#2 OFF BUS	1	3.0	10 10	10	100
1P00EC15	READ- CONTINUE FLT WITH GEN#2 OFF BUS ENG#2 RVRSR INOP	1	4.5	10 10 10	10	100
1P00EC16	READ-NO.2 GEN SW ON	1	2.0	10	10	100
1P00EC17	READ-NO.1 GEN SW ON	1	2.0	10	10	100
1P00EC18	ADVISE- V/G OPERTIV	1	1.5	10	10	100
1P00EC19	READ- STDBY PWR SW OFF	1	2.0	10 10	10	100
1P00EC20	READ- BATT SW OFF	1	1.5	10	10	100
1P00EC21	READ- BUS XFR SW AUTO	1	2.0	10 10	10	100
1P00EC22	READ- IF POSSIBLE RESTORE PWR TO ANY PART OF THE A/C THAT CAN OPERATE NORMAL	1	4.0	10 10 10 10	10	100
1P00EC23	READ- WITH BATT SW OFF FIRE DETECT INOP LAND AS SOON AS POSSIBLE	1	4.0	10 10 10 10	10	100
1P00EC24	READ- USE SMOKE EVAC UATION PROCEDURE IF	1	2.5	10 10	10	100

	NECESSARY			10		
1P00EC25	ADVISE- ROGER, OPER- ATE SYSTEM NORMAL IF POSSIBLE, FIRE DETEC TION INOP	1	4.0	10 10 10 10	10	100
1P00ED01	READ- OX MASKS AND SELECTORS ON - 100	1	2.0	10 10	10	100
1P00ED02	READ- CREW COMMUNICA TIONS ESTABLISH	1	2.0	10 10	10	100
1P00ED03	READ-PRESSURE MODE SELECT - MANUAL	1	2.0	10 10	10	100
1P00ED04	READ-OUTFLOW VALVE CLOSE	1	2.0	10 10	10	100
1P00ED05	READ-NO SMOKING,SEAT BELTS FASTEN SW - ON	1	3.0	10 10	10	100
1P00ED06	READ- PASS OXYGEN (IF REQUIRED) ON	1	2.0	10 10	10	100
1P00ED07	READ-START EMERGENCY DESCENT PROCEDURE IF REQD	1	3.0	10 10 10	10	100
1P00ED08	READ-CABIN ALTIMETER AND CLIMB INDIC - MONITOR	1	3.5	10 10 10	10	100
1P00ED09	READ-CREW OXYGEN SEL NORMAL	1	2.0	10 10	10	100
1P00EE01	ADVISE-PASSENGERS AND CREW FASTEN SEAT BELTS AND REMAIN SEATED DURING DESCNT	1	4.0	10 10 10 10	10	100
1P00EE02	READ-IF STRUCTURAL STRENGTH IN DOUBT LIMIT SPEED AS MUCH AS POSSIBLE	1	3.0	10 10 10 10	10	100
1P00EE03	READ-REDUCE RATE OF DESCENT AND AVOID HIGH MANUVER LOADS	1	4.0	10 10 10	10	100
1P00EE04	ADVISE-ROGER LIMIT SPEED,DESCENT, AND G LOADS AS NEEDED	1	4.0	10 10 10	10	100
1P00EE05	READ-START SWS FLT	1	1.5	10	10	100
1P00EE06	READ-THRST LVRS IDLE	1	1.5	10	10	100
1P00EE07	READ-SPD BRAKES FLT	1	1.5	10	10	100
1P00EE08	READ-TARGET SPD VMO	1	3.0	10	10	100
1P00EE09	READ-LEVEL OFF AT 14000 OR MEA WHICH- EVER HIGHER	1	4.5	10 10 10	10	100
1P00EE10	READ-SPD BRAKES SET DOWN DETENT	1	2.0	10 10	10	100
1P00EE11	READ-CREW OX NORMAL	1	1.5	10	10	100
1P00EE12	READ-START SWS AS REQUIRED	1	2.0	10 10	10	100
1P00EF01	READ-MASTER FIRE WARNING - OFF	1	1.5	10 10	10	100
1P00EF02	ADVISE- FIRE WARNING OFF	1	1.5	10 10	10	100
1P00EF03	READ-FIRE WARN SW PULL AND ROTATE	1	3.0	10 10	10	100
1P00EF04	READ-TO OVERRIDE FIRE SW LOCK, DEPRES BUTTON WHILE PULLING	1	4.5	10 10 10	10	100

	SWITCH			10		
1P00EF05	READ-ROTATE SW THRU MECHANICAL LIMIT AND HOLD FOR AT LEAST ONE SECOND	1	4.0	10 10 10 10	10	100
1P00EG01	READ-MASTER FIRE WARN SW - RESET	1	1.5	10 10	10	100
1P00EG02	READ-LNDG GEAR(MAX 270 KTS) - DOWN	1	4.5	10 10	10	100
1P00EG03	READ-DO NOT RETRACT LNDG GEAR UNTIL FIRE IS OUT AND BRAKES COOLED FOR 20 MIN	1	4.5	10 10 10 10	10	100
1P00EG04	ADVISE-ROGER RETRACT LNDG GEAR AFTER BRAKES COOLED AND FIRE OUT	1	4.0	10 10 10 10	10	100
1P00XX01	CALLOUT-HOW DO YOU HEAR ME	1	1.5	10 10	10	100
1P00XX02	ADVISE-5 BY 5 HOW DO YOU HEAR ME	1	2.0	10 10	10	100
1P00EX01	READ-OXYGEN MASKS ON REGULATOR SET ON 100	1	2.5	10 10	10	100
1P00EX02	READ-SMOKE GOGGLES ON	1	1.5	10 10	10	100
1P00EX03	READ-COCKPIT DOOR CLOSE	1	1.5	10 10	10	100
1P00EX04	ADVISE-CREW COMM ESTABLISHED	1	1.5	10 10	10	100
1P00EH01	READ-WINDOW SHOULD NOT BE OPENED UNLESS SMOKE ORIGIN CONFIRM ED TO BE IN COCKPIT	1	4.0	10 10 10 10	10	100
1P00EH02	READ-NORMAL HOLDING AIRSPEED - ESTAB	1	2.0	10 10	10	100
1P00EH03	ADVISE-HOLDING AIR SPEED ESTABLISHED	1	1.5	10 10	10	100
1P00EH04	READ-FIRST OFFICER SLIDING WINDOW OPEN	1	2.0	10 10	10	100
1P00EH05	READ-PRESSURIZATION MODE SELECT - MAN	1	2.5	10 10	10	100
1P00EH06	READ-CABIN ALT SELCT INCREASE MAX 10000	1	4.0	10 10	10	100
1P00EH07	READ-CABIN RATE SEL ECT MAX INCREASE	1	3.0	10 10	10	100
1P00EH08	READ-L AND R PACK SWS ON	1	2.0	10 10	10	100
1P00EH09	READ-ENGINE THRUST (MAX POSSIBLE) ABOVE 1.2 EPR	1	4.0	10 10 10	10	100
1P00EH10	READ-COCKPIT AIRCOND AND GASPAR OUTLETS OPEN	1	2.5	10 10 10	10	100
1P00FA01	RPT- GEAR SEAL LT ON	1	2.0	10	10	100
1P00FA02	RPT- GEAR SEAL LT ON [illegible]KLST	1	2.5	10 10	10	100
1P00FA03	READ- GEAR SEAL SW- NORMAL	1	2.0	10 10	10	100
1P00FC01	RPT- SYS A/B SHOW LOW BRAKE PRESSURE	1	2.0	10 10	10	100

1P00FC02	READ- LOSS OF SYS A/ B BRAKE PRESS	1	2.0	10 10	100
1P00FC03	READ- AUTO BRAKE OFF	1	1.5	10	100
1P00FC04	READ- BRAKES- APPLY STEADY PRESSURE	1	2.0	10 10	100
1P00FG01	CALLOUT- ANTISKID LT ON	1	2.0	10 10	100
1P00FG02	READ-ANTISKID INOP CHKLST	1	2.5	10 10	100
1P00FG03	READ-AUTO BRAKE OFF	1	1.5	10	100
1P00FG04	READ-IF BRAKING ACTION ABNORMAL DURING LNDG SET ANTI SKID SWS TO OFF	1	4.0	10 10 10 10	100
1P00FG05	READ- BRAKE WITH CAUTION	1	1.5	10 10	100
1P00FF01	RPT- AUTOBRAKE INOP LIGHT ON	1	2.5	10 10	100
1P00FF02	READ- AUTOBRAKE INOP CHECKLIST	1	2.5	10 10	100
1P00GA01	READ- DUCT OVRHT LT CHKLST	1	2.0	10 10	100
1P00GA02	READ-TRIP RESET SW RESET	1	2.0	10 10	
1P00GA03	READ- TEMP SELECT MAN(AS RQD)	1	2.0	10 10	100
1P00GB01	READ- PACK TRIP CHKLST	1	1.5	10 10	100
1P00GB02	READ- TEMP SELECT WARMER	1	1.5	10 10	100
1P00GB03	READ- TRIP RESET SW RESET	1	2.0	10 10	100
1P00GC01	READ- WING/BODY OVHT CHKLST	1	2.0	10 10	100
1P00GC02	READ- ISOLATION VALVE- CLOSE	1	2.5	10 10	100
1P00GC03	READ- BLEED SW OFF	1	1.5	10	100
1P00GD01	READ- BLEED TRIP CHKLST	1	1.5	10 10	100
1P00GD02	READ- TRIP RESET SW RESET	1	2.0	10 10	100
1P00GE01	READ- AUTO FAILCKLST	1	1.5	10	100
1P00GE02	READ- MODE SELECT STDBY	1	2.0	10 10	100
1P00GF01	READ- OFF SCHEDULE DESCENT	1	2.0	10 10	100
1P00GF02	READ- FLT ALT COUNTR - RESET TO BARO ALT	1	3.0	10 10	100
1P00HA01	READ- ENGINE ANTI-ICE VALVE FAIL CKLST	1	3.5	10 10	100
1P00HA02	READ- TOTAL AIR TEMP 10C OR ABOVE SET N1 70 OR BELOW	1	4.5	10 10 10	100
1P00JA01	CALLOUT- WINDOW XX CRAKING	1	2.0	10 10	100
1P00JA02	READ WINDOW XX HEAT SW OFF	1	2.5	10 10	100
1P00JA03	READ-REDUCE PRESS DIFERENCE AS FOLLOWS : CRAKED OUTER PANE	1	4.5	10 10 10	100

	NO CHANGE			10	
1P00JA04	INNER PANE CRAKED, MAX DIFFERENCE 5 PSI MAX ALT FL 230, BOTH CRACKED MAX PRESSURE	1	4.5	10	100
1P00JA05	DIFFERENTIAL 2 PSI MAX ALT 13000 DESCEN D NORMALLY OBSERVE WINDOW HT INOP PROC	1	4.5	10	100
1P00JA06	ADVISE- OUTER PANE CRACKED CONTINUE NORMAL FLT	1	2.0	10	100
1P00JB01	READ- WINDOW OVRHT CHKLST	1	2.0	10	100
1P00JB02	READ- WINDOW HT SW OFF	1	2.0	10	
1P00JB03	ADVISE- DESCEND NOR- MAL, OBSERVE WINDOW HT INOP PROC	1	3.0	10	100
1P00KA01	ADVISE- STAB TRIM OUT	1	2.0	10	100
1P00KA02	READ- MOVE CONTROL COLUMN SMOOTHLY AS REQD TO MAINTAIN AIRCRAFT ATTITUDE	1	4.5	10	100
1P00KA03	READ- STAB TRIM SWS CUTOUT	1	2.0	10	100
1P00KA04	READ- STABILIZER TRIM MANUALLY	1	2.0	10	100
1P00KB01	ADVISE- I HAVE JAM- MED CONTROLS, HELP ME BREAK THEM LOOSE	1	3.5	10	100
1P00KB02	READ- JAMMED,STICKY, FAULTY CONTROLS- OVERPOWER	1	3.0	10	100
1P00KB03	READ- DO NOT TURN OFF ANY FLT CNTRL POWER SWS	1	4.5	10	100
1P00KC01	ADVISE- STABILIZER IS JAMMED OPEN MAN TRIM HANDLE AND HELP BREAK IT LOOSE	1	4.0	10	100
1P00KC02	READ- BOTH PILOTS SIMULTANEOUSLY AT- TEMPT TO BREAK STAB JAM. RESTOW HANDLES.	1	4.0	10	100
1P00KC03	READ- MAINTAIN IN- TRIM AIRSPEED UNTIL START OF APPROACH	1	2.5	10	100
1P00KC04	READ- ESTABLISH LNDG CONFIGURATION EARLY, PLAN FLAPS 15 LNDG	1	3.0	10	100
1P00KC05	ADVISE- ROGER, MAIN- TAIN AIRSPEED, PLAN FLAPS 15 LNDG, ESTAB LISH CONFIG EARLY	1	4.5	10	100
1P00KL01	READ- MOVE FLAP LVR TO DETENT NEAREST ACTUAL FLAP POS AND LAND CORRESPOND VREF	1	4.5	10	100

1P00KL02	READ- FOR FLAP POS LESS THAN 15 SET VREF 40+55 KTS	1	4.5	10	100
1P00KL03	ADVISE- ROGER, FLAPS LESS THAN 15 VREF40 +55	1	2.5	10	100
1P00KX01	READ- ANTI-ICE	1	1.0	10	100
1P00KX02	ADVISE- SET	1	.5	10	100
1P00KX03	READ- AIR CONDITIONING AND PRESSURIZATION	1	2.0	10	100
1P00KX04	ADVISE- SET AND CHECKED	1	1.5	10	100
1P00KX05	READ- START SWS	1	1.5	10	100
1P00KX06	ADVISE- FLT	1	.5	10	100
1P00KX07	READ- INBD LNDG LTS AT 10000- ON	1	2.5	10	100
1P00KX08	READ- ALTIMETER AND INSTRUMENTS	1	1.5	10	100
1P00KX09	ADVISE- SET AND CHKD	1	1.0	10	100
1P00KX10	READ- EPR AND IAS BUGS - VREF & 15	1	2.0	10	100
1P00KX11	ADVISE- VREF&15 SET	1	2.5	10	100
1P00K 01	READ- ABNORMAL TYPE LNDG CHKLST	1	2.0	10	100
1P00K 02	READ- RECALL	1	1.0	10	100
1P00K 03	ADVISE- CHECKED	1	1.0	10	100
1P00K 04	READ- SPEED BRAKES	1	1.0	10	100
1P00K 05	ADVISE- ARMED,GRN LT	1	1.0	10	100
1P00K 06	READ- FLAPS	1	1.0	10	100
1P00K 07	ADVISE-15, GRN & GRN	1	1.5	10	100
1P00K 08	REAR- GEAR	1	1.0	10	100
1P00K 09	ADVISE- DOWN,3GRN	1	1.0	10	100
1P00KC06	READ- ANTICIPATE HIGHER THAN NORMAL ELEVATOR FORCES DURING APP AND LNDG	1	4.0	10	100
1P00KC07	ADVISE- ROGER, ELEV FORCES MAY BE HIGHER NORMAL	1	3.0	10	100
1P00KD01	READ- LIMIT BANK ANGLE TO 15DEG WHILE ON FINAL	1	2.5	10	100
1P00KD02	ADVISE- ROGER BANK ANGLE LESS THAN 15	1	2.5	10	100
1P00KM01	READ- LIMIT BANK ANGLE TO LESS THAN 15DEG BELOW 210KTS	1	4.5	10	100
1P00KM02	ADVISE- ROGER BANK ANGLE LESS THAN 15 DEG UNDER 210 DEG	1	4.0	10	100
1P00KM03	READ- IF PLACARDED TIRE SPEED EXCEEDED TIRE FAILURE MAY OCCUR	1	3.5	10	100
1P00KM04	ADVISE- ROGER, TIRE FAILURE POSSIBLE IF SPEED EXCEEDED	1	3.0	10	100
1P00KN01	READ- FLT CONTROL LOW PRESSURE CHKLST	1	2.0	10	100

1P00KN02	READ- FLT CONTROL SW - STDBY RUDDER	1	2.5	10 10	10	100
1P00KN03	ADVISE- SYS A ON STDBY RUDDER	1	1.5	10 10	10	100
1P00KP01	READ- YAW DAMPER LT CHKLST	1	2.0	10 10	10	100
1P00KP02	READ- YAW DAMPER SW RESET TO ON	1	2.0	10 10	10	100
1P00KP03	READ- YAW DAMPER LT STILL ON - SET YAW DAMPER TO OFF	1	2.5	10 10 10	10	100
1P00KP04	READ- DO NOT ENGAGE AUTOPILOT ABOVE FL300	1	2.5	10 10 10	10	100
1P00KQ01	ADVISE- STAB OUT OF TRIM GET CHKLST	1	2.5	10 10	10	100
1P00KQ02	READ- STAB OUT OF TRIM CHKLST	1	1.5	10 10	10	100
1P00KQ03	READ- COTROL COLUMN HOLD FIRMLY	1	2.0	10 10	10	100
1P00KQ04	READ- AUTOPILOT DISENGAGE	1	1.5	10 10	10	100
1P00KQ05	READ- STAB TRIM - AS REQD	1	2.5	10 10	10	100
1P00KR01	ADVISE- SPEED BRAKE DID NOT ARM GET CHKLST	1	2.5	10 10 10	10	100
1P00KR02	READ- SPEED BRAKE NOT ARMED CHKLST	1	2.5	10 10	10	100
1P00KR03	READ- SPEED BRAKE LVR - DOWN	1	3.0	10 10	10	100
1P00KR04	READ- AT TOUCHDOWN SPEED BRAKE LVR UP	1	3.0	10 10	10	100
1P00KS01	READ- MACH TRIM FAIL CHKLST	1	1.5	10 10	10	100
1P00KS02	READ- AIRSPEED, LIMIT TO MACH .74	1	3.0	10 10 10	10	100
1P010001	CALL OUT-¢COMPASS HDG IS XXX DEGREES!	1	2.5	10 10	10	100
1P010002	CALL OUT-¢ALTIMETER SETTING IS XXXX!	1	2.5	10 10	10	100
1P010003	CALL OUT-¢SET V1 TO XXX KNOTS AND VR TO XXX KNOTS!	1	6	10 10 10	10	100
1P010004	CALL OUT-¢WHAT IS THE EPR SETTING!	1	1.5	10 10	10	100
1P010005	CALL OUT-¢SET EPR AT XXX!	1	2.5	10 10	10	100
1P010006	CALL OUT - ¢BEFORE START CHECKLIST!	1	2	10 10	10	100
1P010007	CALL OUT - ¢INTERIOR AND EXTERIOR PRE-FLIGHT CHECK!	1	3	10 10 10	10	100
1P010008	CALL OUT INCOMPLETE	1	1	10	10	100
1P010009	CALL OUT - ¢LIGHT TEST!	1	1.3	10 10	10	100
1P010010	CALL OUT -¢CHECKED!	1	1	10	10	100
1P010011	CALL OUT - ¢OXYGEN AND INTERPHONE!	1	1.3	10 10	10	

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1P010012 CALL OUT - ¢CHECKED! 1     1                    10     100
1P010013 CALL OUT - ¢YAW DAM- 1     1                    10     100
         PER !                                           10
1P010014 CALL OUT - ¢ON!      1   0.5                    10     100
1P010015 CALL OUT - ¢FUEL!    1   0.5                    10     100
1P010016 CALL OUT - ¢XXX LBS, 1   4.5                    10     100
         OK FOR DISPATCH, ALL                            10
         PUMPS ON!                                       10
1P010017 CALL OUT - ¢GALLEY   1   0.7                    10     100
         POWER !                                         10
1P010018 CALL OUT - ¢EMERG    1   1.2                    10     100
         EXT LTS!                                        10
1P010019 CALL OUT - ¢ARMED!   1   0.6                    10     100
1P010020 CALL OUT - ¢SEAT     1     2                    10     100
         BELT AND NO SMOKING                             10
         LTS!                                            10
1P010021 CALL OUT - ¢AUTO!    1   0.5                    10     100
1P010022 CALL OUT - ¢HYDRAU-  1     1                    10     100
         LICS!                                           10
1P010023 CALL OUT - ¢AIR CON- 1     2                    10     100
         DITIONING AND PRES-                             10
         SURIZATION!                                     10
1P010024 CALL OUT - ¢1 PACK,  1   2.3                    10     100
         BLEEDS ON, SET!                                 10
1P010025 CALL OUT - ¢AUTO-    1   0.5                    10     100
         PILOT!                                          10
1P010026 CALL OUT - ¢NORMAL!  1   0.7                    10     100
1P010027 CALL OUT -¢DISEN-    1   0.8                    10     100
         GAGED!                                          10        1P0
1P010028 CALL OUT-¢INSTRU-    1   0.8                    10     100
         MENTS!                                          10
1P010029 CALL OUT -¢CROSS-    1     1                    10     100
         CHECKED!                                        10
1P010030 CALL OUT -¢ANTI-SKID 1   0.9                    10     100
1P010031 CALL OUT -¢AUTO      1   0.9                    10     100
         BRAKES!                                         10
1P010032 CALL OUT-¢OFF!       1   0.5                    10     100
1P010033 CALL OUT -¢RADIOS,   1     2                    10     100
         RADAR,AND TRANS-                                10
         PONDER!                                         10
1P010034 CALL OUT- ¢SET AND   1   1.2                    10     100
         STANDBY!                                        10
1P010035 CALL OUT -¢SPEED     1   0.8                    10     100
         BRAKE!                                          10
1P010036 CALL OUT -¢DOWN      1     1                    10     100
         DETENT!                                         10
1P010037 CALL OUT -¢PARKING   1   0.7                    10     100
         BRAKE!                                          10
1P010038 CALL OUT -¢SET!      1   0.5                    10     100
1P010039 CALL OUT -¢STAB TRIM 1   1.7                    10     100
         CUTOUT SWITCHES!                                10
1P010040 CALL OUT -¢WHEEL     1     2                    10     100
         WELL FIRE WARNING!                              10
1P010041 CALL OUT -¢RUDDER    1   1.5                    10     100
         AND AILERON TRIM!                               10
1P010042 CALL -¢ZERO!         1   0.7                    10     100
1P010043 CALL OUT -¢PAPERS!   1   0.8                    10     100
1P010044 CALL OUT -¢ABOARD!   1   0.7                    10     100
1P010045 CALL OUT -¢ZFW,EPR,  1   2.5                    10     100
         AND IAS BUGS!                                   10
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1P010046	CALL OUT -¢AIRCONDITIONING PACK!	1	1.3	10		100
1P010047	CALL OUT -¢PACKS OFF	1	0.9	10		100
1P010048	CALL OUT -¢START PRESSUPE!	1	0.9	10		100
1P010049	CALL OUT -¢XXX PSI!	1	1.6	10		100
1P010050	CALL OUT -¢ANTI-COLLISSION LT!	1	1.2	10		100
1P010051	CALL OUT -¢BEFORE START CHECKLIST COMPLETE!	1	1.7	10		100
1P010052	CALL OUT -¢CONTINUE BELOW THE LINE!	1	1.7	10		100
1P010053	INFORM GROUND CREW ¢READY FOR PUSHBACK!	1	1.4	10		100
1P010054	GROUND CREW REPORTS ¢ROGER!	1	0.8	10		100
1P010055	RADIO COMM -¢CLEARANCE DELIVERY, THIS IS NASA 515 AT GATE X, IFR TO WASH NATL!	1	5.0	10		100
1P010056	MON RADIO COMM-¢NASA 515, IFR TO WASHINGTON NATIONAL, CLEARD AS FILED, CLIMB AND	1	4.26	10	100	
1P010057	MAINTAIN FIVE THOUSAND FEET, NOISE ABATEMENT PROCEDURES ARE IN EFFECT, CONTACT ATLANTA DEPAR	1	5.68	10	100	
1P010058	TURE ON ONE TWO FIVE POINT SEVEN, SQUAWK TWO TWO ONE POINT	1	5.68	10	100	
1P010059	THREE, OVER!	1	1.42	10	100	
1P010060	RADIO COMM -¢NASA 515, ROGER, CLEARED AS FILED, MAINTAIN FIVE THOUSAND, NOISE	1	3.66	10		100
1P010061	ABATEMENT PROCEDURES IN EFFECT, CONTACT ATLANTA DEPARTURE ON ONE TWO FIVE POINT!	1	4.88	10		100
1P010062	MON RADIO COMM-¢NASA 515, CLEARANCE CORRECT, CONTACT GROUND CONTROL ON	1	3.50	10	100	
1P010063	ONE TWO ONE POINT NINER WHEN READY TO TAXI!	1	2.50	10	100	
1P010064	RADIO COMM-¢NASA 515, ROGER!	1	1.7	10		100
1P010065	MON RADIO COMM-¢INFORMATION KILO? ONE SIX ONE ZERO OBSERVATION, 3000	1	4.08	10	100	
1P010066	SCATTERED, CEILING 5000 BROKEN, VISIBILITY TWO THREE, TEMPERATURE FIVE NINER,	1	5.44	10	100	
1P010067	WIND ONE ONE FIVE	1	5.44	10	100	

	DEGREES AT SEVEN			10			
	GUSTING TO ONE SIX,			10			
	ALTIMETER TWO NINER			10			
1P010068	EIGHT SIX. LANDINGS	1	5.44	10	100		
	RUNWAYS ZERO EIGHT,			10			
	NINER RIGHT. DEPAR-			10			
	TURES RUNWAYS ZERO			10			
1P010069	EIGHT, NINER LEFT.	1	5.44	10	100		
	NOISE ABATEMENT PRO-			10			
	CEDURES ARE IN EF-			10			
	FECT. ADVISE CON-			10			
1P010070	RADIO COMM -¢ATLANTA	1	4.00	10		100	
	GROUND CONTROL, THIS			10			
	IS NASA 515 AT GATE			10			
	X, REQUEST PERMIS-			10			
1P010071	SION TO PUSHBACK.	1	3.00	10		100	
	WE HAVE INFORMATION			10			
	KILO, OVER!			10			
1P010072	NON RADIO COMM-	1	4.50	10	100		
	¢NASA 515, ATLANTA			10			
	GROUND, ROGER. CLEAR			10			
	TO PUSHBACK. ADVISE			10			
1P010073	SEVEN, SQUAWK TWO	1	2.44	10		100	
	TWO ONE THREE. OVER!			10			
1P010074	TROLLER ON INITIAL	1	4.08	10	100		
	CONTACT YOU HAVE			10			
	INFORMATION KILO !			10			
1P010075	WHEN READY TO TAXI.	1	1.50	10	100		
	OVER.!			10			
1P010076	NON INTPH COMM -	1	.9	10	100		
	¢ALL CLEAR!			10			
1P020001	NON RADIO COMM -	1	4	10	100		
	¢ATC CLEARS NASA 515			10			
	AS FILED. SOCLE 9L			10			
	DEPARTURE, ROUTE JAY			10			
1P020002	EIGHT ONE SIX R	1	4	10	100		
	JASON ONE STAR.			10			
	CLIMB AND MAINTAIN			10			
	FLIGHT LEVEL THREE			10			
1P020003	THREE ZERO. CONTACT	1	4	10	100		
	ATLANTA DEPARTURE ON			10			
	125.7, SQUAWK 2213,			10			
	OVER!			10			
1P020004	RADIO COMM - ¢NASA	1	4	10		100	
	515, ROGER. CLEARED			10			
	AS FILED. SOCLE 9L			10			
	DEPARTURE, ROUTE JAY			10			
1P020005	EIGHT ONE SIX R.	1	4	10		100	
	JASON ONE STAR.			10			
	CLIMB AND MAINTAIN			10			
	FLIGHT LEVEL THREE			10			
1P020006	THREE ZERO. DEPAR-	1	4	10		100	
	TURE ON 125.7,			10			
	SQUAWK 2213, OVER.!			10			
1P020007	CALL OUT-¢FLIGHT	1	2	10		100	
	PLAN ENTERED AND			10			
	CHECKED!			10			
1P020008	CALL OUT-¢EADI!	1	1	10		100	
1P020009	CALL OUT -¢ON AND	1	1	10		100	
	CHECKED!			10			

1P020010	CALL OUT -¢MFD!	1	6	10		100
1P020011	CALL OUT -¢NCDU!	1	1	10		100
1P020012	CALL OUT- ¢AGCS!	1	1	10		100
1P020013	CALL OUT-¢ATT CWS!	1	1.2	10		100
1P030001	MON INTPHN COMM - ¢ALL CLEAR!	1	0.9	10	100	
1P030002	INTPHN COMM - ¢STARTING NO.2!	1	1.3	10		100
1P030003	INTPHN COMM - STARTING NO.1!	1	1.3	10		100
1P030004	CALL OUT -¢AFTER START CHECKLIST!	1	1.5	10		100
1P030005	CALL OUT -¢ELECTRI-CAL!	1	0.8	10		100
1P030006	CALL OUT- ¢GENERA-TORS ON!	1	1.2	10		100
1P030007	CALL OUT -¢PITOT HEAT!	1	0.9	10		100
1P030008	CALL OUT- ¢ANTI-ICE!	1	0.9	10		100
1P030009	CALL OUT -¢NOT REQD!	1	1	10		100
1P030010	CALL OUT-¢AIR CONDI-TIONING AND PRESSU-RIZATION!	1	1.6	10		100
1P030011	CALL OUT-¢PACKS ON, FLT!	1	1.3	10		100
1P030012	CALL OUT -¢START SWITCHES!	1	0.9	10		100
1P030013	CALL OUT -¢FLT!	1	0.6	10		100
1P030014	CALL OUT -¢APU!	1	0.8	10		100
1P030015	CALL OUT -¢OFF!	1	.5	10		100
1P030016	CALL OUT -¢START LEVERS!	1	1	10		100
1P030017	CALL OUT -¢OFF!	1	0.5	10		100
1P030018	CALL OUT-¢CHECKLIST COMPLETED!	1	1.4	10		100
1P040001	MON RADIO COMM - ¢NASA 515, CROSS RUNWAY ZERO EIGHT, OVER!	1	3.0	10	100	
1P040003	RADIO COMM -¢NASA 515, ROGER!	1	1.7	10		100
1P040030	MON RADIO COMM- ¢NASA 515, HOLD SHORT OF NEXT INTER-SECTION, CLEARED	1	3.0	10	100	
1P040031	BEHIND EASTERN TRI-JET, OVER!	1	2.0	10	100	
1P040032	MON RADIO COMM - ¢NASA 515, CONTACT ATLANTA TOWER ON ONE ONE NINER POINT	1	3.0	10	100	
1P040033	FIVE, OVER.!	1	1.0	10	100	
1P040034	RADIO COMM -¢NASA 515 ROGER, ONE ONE NINER POINT FIVE.!	1	3.0	10		100
1P040035	RADIO COMM -¢ATLANTA GROUND CONTROL, NASA 515 READY TO TAXI, OVER!	1	3.50	10		100
1P040036	MON RADIO COMM -	1	3.50	10	100	

	¢NASA 515, TAXI TO RUNWAY NINER LEFT VIA NORTHEAST-SOUTH-			10			
1P040037	WEST TAXIWAY. HOLD SHORT OF RUNWAY ZERO EIGHT, OVER!	1	3.50	10	100		
1P040038	RADIO COMM -¢NASA 515, ROGER. TAXI RUNWAY NINER LEFT, HOLD SHORT RUNWAY	1	3.75	10		100	
1P040039	ZERO EIGHT.!	1	1.25	10		100	
1P070001	CALL OUT -¢80 KNOTS!	1	1.1	10		100	
1P070002	CALL OUT -¢V1!	1	0.9	10		100	
1P070003	CALL OUT -¢VR!	1	0.9	10		100	
1P070004	CALL OUT -¢GEAR UP!	1	1.1	10		100	
1P070005	RADIO COMM -¢ATLANTA TOWER, THIS IS NASA 515. READY FOR TAKE-	1	3.6	10		100	
1P070006	OFF, RUNWAY NINER LEFT, OVER!	1	1.2	10		100	
1P070007	NON RADIO COMM - ¢NASA 515, TAXI INTO POSITION AND HOLD, OVER!	1	2.5	10	100		
1P070008	RADIO COMM - ¢515, TAXI INTO POSITION AND HOLD, ROGER!	1	2.5	10		100	
1P070009	NON RADIO COMM - ¢NASA 515 CLEARED FOR IMMEDIATE TAKE-	1	2.5	10	100		
1P070010	OFF! RADIO COMM -¢515 ROLLING!	1	1.5	10		100	
1P070011	CALL OUT -¢TAKEOFF FLAPS!	1	1	10		100	
1P070012	CALL OUT -¢BEFORE TAKEOFF CHECKLIST!	1	1.5	10		100	
1P070013	CALL OUT- ¢RECALL!	1	1	10		100	
1P070014	CALL OUT-¢CHECKED!	1	0.8	10		100	
1P070015	CALL OUT-¢FLIGHT CONTROLS!	1	1	10		100	
1P070016	CALL OUT-¢FLAPS!	1	0.6	10		100	
1P070017	CALL OUT -¢15,GREEN LIGHT!	1	1	10		100	
1P070018	CALL OUT-¢STABILIZER TRIM!	1	1.2	10		100	
1P070019	CALL OUT-¢COCKPIT DOOR!	1	1	10		100	
1P070020	CALL OUT-¢LOCKED!	1	0.7	10		100	
1P070021	CALL OUT-¢TAKEOFF BRIEFING!	1	1	10		100	
1P070022	CALL OUT-¢FLY RUN- WAY HEADING UNTIL CROSSING RUNWAY 27R MIDDLE MARKER. TURN	1	4.5	10		100	
1P070023	TO HEADING 105 AND CLIMB AND MAINTAIN 5000. EXPECT VECTORS AFTER NEW HEADING!	1	5.5	10		100	
1P070024	CALL OUT-¢ROGER!	1	0.6	10		100	

1P070025	CALL OUT-¢TRANSPONDER AND RADAR!	1	1.5	10		100
1P070026	CALL OUT- ¢ON!	1	0.5	10		100
1P070027	CALL OUT-¢INBOARD LANDING LIGHTS!	1	1.5	10		100
1P070028	CALL OUT-¢BEFORE TAKEOFF CHECKLIST COMPLETE!	1	2.2	10		100
1P070029	CALL OUT-¢XX UNITS!	1	1.4	10		100
1P070030	CALL OUT -¢TRANSPONDER!	1	.7	10		100
1P070031	CALL OUT -¢AGCS!	1	1.1	10		100
1P070032	CALL OUT -¢ATT CWS!	1	1.1	10		100
1P070033	CALL- GEAR UP,LOCKED	1	1.1	10		100
1P070034	CALL- V2 PLUS 15	1	1.1	10		100
1P090001	MON RADIO COMM - ¢NASA 515, CONTACT ATLANTA DEPARTURE ON ONE TWO FIVE POINT	1	4.5	10	100	
1P090002	RADIO COMM -¢NASA 515, ROGER!	1	1.7	10		100
1P090003	RADIO COMM -¢ATLANTA DEPARTURE CONTROL, THIS IS NASA 515, OVER!	1	3.5	10		100
1P090005	MON RADIO COMM- ¢NASA 515, ATLANTA DEPARTURE, ROGER. SQUAWK IDENT!	1	3.5	10	100	
1P090006	MON RADIO COMM - ¢NASA 515, RADAR CONTACT, SAY ALTITUDE, OVER!	1	3.2	10	100	
1P090007	RADIO COMM -¢NASA 515, LEAVING ONE EIGHT HUNDRED!	1	2.3	10		100
1P090008	MON RADIO COMM- ¢NASA 515, CLIMB AND MAINTAIN FLIGHT LVL 230. CONTACT ATLANTA	1	3.1	10	100	
1P090009	CENTER ON ONE TWO THREE POINT NINER FIVE, OVER!	1	3.1	10	100	
1P090010	RADIO COMM -¢515, ROGER. CLIMB AND MAINTAIN FLIGHT LEVEL TWO THREE ZERO	1	3.5	10		100
1P090011	, CONTACT CENTER ON ONE TWO THREE POINT NINER FIVE, GOOD DAY!	1	3.5	10		100
1P090012	RADIO COMM - ¢ATLANTA CENTER, THIS IS NASA 515 OUT OF 11000 FOR FL230,	1	.45	10		100
1P090013	OVER!	1	.5	10		100
1P090014	MON RADIO COMM - ¢NASA 515, THIS IS ATLANTA CENTER, ROGER. SQUAWK IDENT!	1	3.5	10	100	

1P090015	MON RADIO COMM - ¢NASA 515, RADAR CONTACT. REPORT LEAVING FL210,OVER!	1	3.5	10	100	
1P090016	RADIO COMM - ¢NASA 515, RAGER. REPORT FLIGHT LEVEL TWO ONE ZERO!	1	3.5	10		100
1P090017	CALL OUT- ¢AFTER TAKEOFF CHECKLIST!	1	1.2	10		100
1P090018	CALL OUT- ¢START SWITCHES!	1	0.9	10		100
1P090019	CALL OUT- -¢OFF!	1	0.5	10		100
1P090020	CALL OUT -¢LANDING GEAR!	1	0.9	10		100
1P090021	CALL OUT-¢UP AND OFF!	1	1	10		100
1P090022	CALL OUT -¢FLAPS!	1	0.6	10		100
1P090023	CALL OUT -¢AFTER TAKEOFF CHECKLIST COMPLETE!	1	1.9	10		100
1P090024	SEVEN, GOOD-DAY SIR!	1	1.5	10	100	
1P090025	MON RADIO COMM - ¢NASA 515, FOR VECTOR TO INTERCEPT JAY THIRTY SEVEN, TURN	1	3.0	10	100	
1P090026	LEFT HEADING ZERO SEVEN ZERO, CLIMB AND MAINTAIN NINER THOUSAND, OVER!	1	4.0	10	100	
1P090027	RADIO COMM -¢NASA 515, ROGER, LEFT HEADING ZERO SEVEN ZERO, MAINTAIN NINER	1	4.0	10		100
1P090028	THOUSAND.!	1	.5	10		100
1P090029	MON RADIO COMM - ¢NASA 515, CLIMB AND MAINTAIN ONE TWO THOUSAND, OVER!	1	3.5	10	100	
1P090030	RADIO COMM - ¢NASA 515, ROGER, MAINTAIN ONE TWO THOUSAND!	1	2.8	10		100
1P090031	MON RADIO COMM - ¢NASA 515, MAINTAIN FLIGHT LEVEL ONE EIGHT ZERO, TRAFFIC	1	3.75	10	100	
1P090032	TWELVE ORCLOCK, FOUR MILES, NORTHEAST BOUND, C-130 ASSIGND FLIGHT LEVEL ONE	1	5.00	10	100	
1P090033	NINER ZERO, OVER!	1	1.25	10	100	
1P090034	RADIO COMM -¢NASA 515, ROGER, MAINTAIN ¢NASA 515, CLIMB AND FLIGHT LEVEL ONE EIGHT ZERO, WE HAVE	1	4.8	10		100
1P090035	TRAFFIC IN SIGHT!	1	1.0	10		100
1P090036	MON RADIO COMM - ¢NASA 515, CLEAR OF TRAFFIC, CLIMB AND	1	3.0	10	100	

	MAINTAIN FLIGHT						
1P090037	LEVEL TWO THREE ZERO . REPORT LEAVING FLIGHT LEVEL TWO ONE ZERO. OVER!	1	4.0	10	100		
1P090038	RADIO COMM - ¢NASA 515, ROGER. MAINTAIN TWO THREE ZERO. REPORT LEAVING TWO	1	3.5	10		100	
1P090039	ONE ZERO.!	1	.5	10		100	
1P090040	RADIO COMM -¢ATLANTA CENTER. NASA 515. LEAVING FLIGHT LEVEL TWO ONE ZERO. OVER!	1	4.0	10		100	
1P090041	MON RADIO COMM - ¢NASA 515. ROGER. CLIMB AND MAINTAIN FLIGHT LEVEL THREE	1	3.5	10	100		
1P090042	ONE ZERO. CONTACT CENTER ON ONE THREE THREE POINT SEVEN, OVER!	1	3.5	10	100		
1P090043	RADIO COMM -¢NASA 515. ROGER. MAINTAIN FLIGHT LEVEL THREE ONE ZERO. CENTER ON	1	3.7	10		100	
1P090044	ONE THREE THREE POINT SEVEN.!	1	2.3	10		100	
1P090045	RADIO COMM -¢ATLANTA CENTER. THIS IS NASA 515 OUT OF FLIGHT LEVEL TWO THREE ZERO	1	3.7	10		100	
1P090046	FOR TWO NINER ZERO, OVER!	1	2.3	10		100	
1P090047	MON RADIO COMM - ¢NASA 515, ATLANTA CENTER. ROGER. SQUAWK IDENT. REPORT	1	3.7	10	100		
1P090048	LEAVING FLIGHT LEVEL TWO EIGHT ZERO, OVER!	1	3.3	10	100		
1P090049	RADIO COMM -¢NASA 515. ROGER. REPORT FLIGHT LEVEL TWO EIGHT ZERO.!	1	4.0	10	100		
1P090050	RADIO COMM -¢ATLANTA CENTER. NASA 515 LEAVING FLIGHT LEVEL TWO EIGHT ZERO.OVER!	1	4.0	10		100	
1P090051	MON RADIO COMM- ¢NASA 515. ROGER. CLIMB AND MAINTAIN FLIGHT LEVEL TWO	1	3.5	10	100		
1P090052	NINER ZERO. OVER!	1	1.5	10	100		
1P090053	RADIO COMM -¢NASA 515. ROGER. MAINTAIN FLIGHT LEVEL TWO NINER ZERO.!	1	4.0	10		100	
1P090054	MON RADIO COMM - ¢NASA 515. CLIMB AND	1	3.5	10	100		

	MAINTAIN FLIGHT LVL THREE THREE ZERO.			10			
1P090055	CONTACT CENTER ON ONE THREE FOUR POINT FIVE FIVE, OVER!	1	3.5	10	100		
1P090056	RADIO COMM -¢NASA 515, ROGER, MAINTAIN FLIGHT LEVEL THREE THREE ZERO, CENTER	1	4.0	10		100	
1P090057	ON ONE THREE FOUR POINT FIVE FIVE.!	1	2.0	10		100	
1P090058	RADIO COMM -¢ATLANTA CENTER, NASA 515 LEAVING FLIGHT LEVEL TWO NINER ZERO FOR	1	4.0	10		100	
1P090059	FLIGHT LEVEL THREE THREE ZERO, OVER!	1	2.0	10		100	
1P090060	MON RADIO COMM - ¢NASA 515, ATLANTA CENTER, ROGER. SQUAWK IDENT	1	3.5	10	100		
1P090061	MON RADIO COMM - ¢NASA 515, RADAR CONTACT, REPORT LEVEL AT FLIGHT	1	3.5	10	100		
1P090062	LEVEL THREE THREE ZERO, OVER!	1	2.0	10	100		
1P090063	CALL OUT-¢FLAPS 1!	1	.8	10		100	
1P090064	CALL OUT -¢FLAPS ZERO!	1	.8	10		100	
1P090065	CALL OUT - ¢SPARTAMBURG VOR ON NAV 2!	1	2.5	10		100	
1P090066	CALL OUT - ¢GORDONSVILL VOR ON NAV 1!	1	2.5	10		100	
1P090067	CALL OUT - ¢ONE THOUSAND FEET TO LEVEL OF!	1	1.7	10		100	
1P090068	RADIO COMM - ¢ATLAN- TA DEPARTURE, THIS IS NASA 515, OVER!	1	3.1	10		100	
1P090069	MON RADIO COMM - ¢NASA 515, CONTACT ATLANTA CENTER ON ONE TWO THREE POINT	1	4	10	100		1P0
1P090070	NINER FIVE, OVER!	1	1.5	10	100		
1P090073	RADIO COMM - ¢NASA 515, ROGER, ONE TWO THREE POINT NINER FIVE.!	1	3.7	10	100		
1P090074	MON RADIO COMM - ¢NASA 515, ROGER. CONTACT CENTER ON ONE THREE THREE	1	4	10	100		
1P090075	POINT SEVEN, OVER!	1	1	10	100		
1P090076	RADIO COMM - ¢515, ROGER, ONE THREE THREE POINT SEVEN.!	1	3.1	10		100	
1P090077	RADIO COMM -¢ATLANTA	1	3.4	10		100	

	CENTER, THIS IS NASA 515 LEAVING FLIGHT LEVEL TWO ONE ZERO					
1P090078	FOR FLIGHT LEVEL THREE THREE ZERO, OVER.!	1	3.4			100
1P090079	MON RADIO COMM - ¢NASA 515, MAINTAIN FLIGHT LEVEL TWO SIX ZERO. TRAFFIC AT	1	3		100	
1P090080	TWELVE O"CLOCK FOUR MILES, NORTHEAST BOUND, C-130 ASSIGN-ED FLIGHT LEVEL TWO	1	4.2		100	
1P090081	SEVEN ZERO, OVER!	1	2		100	
1P090082	RADIO COMM- ¢515, ROGER, MAINTAIN FLIGHT LEVEL TWO SIX ZERO. WE HAVE TRAF-	1	3.3			100
1P090083	FIC IN SIGHT.!	1	1.1			100
1P090084	MON RADIO COMM - ¢NASA 515, CLEAR OF TRAFFIC, CLIMB AND MAINTAIN FLIGHT LEV-	1	3.1		100	
1P090085	EL THREE THREE ZERO. REPORT LEAVING TWO EIGHT ZERO, OVER.!	1	3.1		100	
1P090086	RADIO COMM -¢515, ROGER, MAINTAIN THREE THREE ZERO, REPORT LEAVING TWO	1	3			100
1P090087	EIGHT ZERO.!	1	1			100
1P090088	MON RADIO COMM - ¢NASA 515, CLIMB AND MAINTAIN FLIGHT LEV- EL THREE ONE ZERO.	1	3		100	
1P090089	OVER.!	1	.5		100	
1P090090	RADIO COMM - ¢515, ROGER, MAINTAIN FLIGHT LEVEL THREE ONE ZERO.!	1	3			100
1P090091	RADIO COMM -¢ATLANTA CENTER, NASA 515 LEAVING FLIGHT LEV- EL THREE ONE ZERO	1	3			100
1P090092	FOR FLIGHT LEVEL THREE THREE ZERO, OVER.!	1	3			100
1P090093	RADIO COMM -¢ATLANTA CENTER, THIS IS NASA 515 OUT OF ELEVEN THOUSAND FOR FLIGHT	1	4			100
1P090094	LEVEL THREE THREE ZERO, OVER.!	1	1.5			100
1P090095	CALL OUT -¢ALTIMETER BARO SETTING IS TWO NINE POINT NINE TWO!	1	3			100
1P090096	CALL OUT- ¢SPARTAN- BUR VOR IS ON NAV 1!	1	2			100
1PB9EA01	CALL OUT-¢INITATE	1	1.5			100

	FIRE CONTROL PROC.)					10		
1PB9EA02	CALL OUT(MONITORING NO.1 FIRE WARNING LIGHT)	1	2.00			10		100
1PB9EA04	CALL OUT (THRUST LEVER TO IDLE)	1	1.3			10		100
1PB9EA06	CALL OUT (NO.1 START LEVER TO CUT OFF)	1	1.4			10		100
1PB9EA08	CALL OUT (FIRE WARNING SWITCH PULL)	1	1.3			10	100	
1PB9EA10	CALL OUT (FIRE WARNING STILL ON, HANDLE ROTATION NOW)	1	3.0			10		100
1PB9EA11	CALL OUT (LEFT BOTTLE DISCHARGING)	1	1.5			10		100
1PB9EA12	CALL OUT (FIRE EXTINGUISHED)	1	.5			10		100
1PB9EA13	RADIO COMM (ALT DEP CONTROL-NASA 515-ENGINE FIRE-EXT.-REQ.EMERG.APP.)	1	6.8			10		100
1PB9EA14	RADIO COMM(NASA-515 UNDERSTAND ENG.FIRE OUT-EMERG.APP REQ-TURN LEFT 360 DEGREE	1	3.8			10		100
1PB9EA27	MAINTAIN SPEED AND ALTITUDE SQUINK 7700 + IDENT)	1	3.0			10		100
1PB9EA15	RADIO COMM(ALT.D.C.-515 TURN LEFT 360DEG MAINTAIN A/S+HDG SQ.7700+IDENT)	1	11.			10		100
1PB9EA16	CALL OUT(MASTER FIRE WARNING OFF)	1	1.5	20		10		100
1PB9EA17	CALL OUT(ENG.NO.1 THRUST LEVER TO IDLE)	1	1.5	20		10		100
1PB9EA18	CALL OUT(ENG.NO.1 START LEVER OFF)	1	1.5	20		10		100
1PB9EA19	CALL OUT(ENG.FIRE WARNING SW PULLED)	1	1.5	20		10		100
1PB9EA20	CALL OUT(ISOLATION VALVE SW. CLOSED)	1	1.5	20		10		100
1PB9EA21	CALL OUT(APU BLEED VALVE OFF)	1	1.5	20		10		100
1PB9EA22	CALL OUT(APU START)	1	1.5			10		100
1PB9EA23	CALL OUT(FUEL,ELEC., AND WING ANTI-ICE ADJUSTED)	1	3.5	20		10		100
1PB9EA24	CALL OUT(NO.1 AFT +FWD FUEL AND GEN. SW. OFF)	1	4.2			10		100
1PB9EA25	CALL OUT(WING ANTI-ICE ADJUSTED)	1	1.5			10		100
1PB9EA26	CALL OUT(MASTER CAUTION LIGHT OFF)	1	1.5			10		100
1P09FE01	CALL OUT-¢SYS B PUMP NO. 1 OVERHEATED!	1	2.7			10		100
1P09FE02	CALL OUT-¢PUMP	1	1.5			10		100

	SWITCH OFF!			10		
1P09FE03	CALL OUT-¢CHECKLIST COMPLETE!	1	1.6	10		100
1P11FD01	CALL OUT-¢SYSTEM B LOW PRESSURE!	1	2	10		100
1P11FD02	CALL OUT-¢SYSTEM B FLT CONTROL SW-STBY RUDDER!	1	3.7	10		100
1P11FD03	CALL OUT-¢SYSTEM B HYD PUMPS-OFF!	1	3	10		100
1P11FD04	CALL OUT-¢AUTOPILOT HYD SYS SELECTOR-SYS A!	1	4.2	10		100
1P11AF01	CALL OUT-¢NO 2 OIL FILTER BYPASS!	1	3.2	10		100
1P11AF02	CALL OUT-¢LITE OUT AT XXX EPR!	1	3.5	10		100
1P11CB01	CALL OUT-¢ELECTRICAL FAILURE!	1	2.1	10		100
1P11CB02	CALL OUT-¢NO 2 CSD LOW OIL PRESSURE!	1	4	10		100
1P11CB03	CALL OUT-¢APU ON NO. 2 BUS!	1	3.7	10		100
1P11CB04	CALL OUT-¢GEN DRIVE DISCONNECT SWITCH-DISCONNECT!	1	3.7	10		100
1P11CB05	CALL OUT-¢APU-START, ON BUS!	1	4	10		100
1P110001	RADIO COMM -¢ATLANTA CENTER, THIS IS NASA 515 LEVEL AT FLIGHT LEVEL THREE THREE	1	4.0	10		100
1P110002	ZERO, OVER!	1	.2	10		100
1P110003	MON RADIO COMM -¢NASA 515, ROGER!	1	1.7	10		100
1P110004	RADIO COMM -¢ATLANTA CENTER, THIS IS NASA 515. REQUEST VECTORS FOR RETURN TO	1	4.0	10		100
1P110005	ATLANTA, OVER!	1	1.0	10		100
1P110006	MON RADIO COMM -¢NASA 515, ROGER. STANDBY FOR INSTRUCTIONS!	1	3.0	10	100	
1P110007	NON RADIO COMM -¢NASA 515, FOR VECTOR TO INTERCEPT LANIER SIX ARRIVAL,	1	3.66	10	100	
1P110008	PULASKI TRANSITION, TURN LGFT HEADING TWO SEVEN ZERO. CONTACT ATLANTA CENTER	1	4.88	10	100	
1P110009	ON ONE THREE FIVE POINT THREE FIVE, OVER!	1	2.44	10	100	
1P110010	RADIO COMM -¢515, ROGER. LEFT HEADING TWO SEVEN ZERO, LANIER SIX ARRIVAL,	1	4.0	10		100
1P110011	CENTER ONE THREE	1	3.0	10		100

	FIVE POINT THREE				10		
	FIVE.!				10		
1P110012	RADIO COMM -¢ATLANTA CENTER, THIS IS NASA 515 LEVEL AT THREE THREE ZERO TURNING	1	3.5		10		100
1P110013	TO TWO SEVEN ZERO, OVER!	1	1.5		10		100
1P110014	MON RADIO COMM - ¢NASA 515, ROGER. SQUAWK IDENT!	1	2.5		10	100	
1P110015	MON RADIO COMM- ¢NASA 515, RADAR CONTACT!	1	2.0		10	100	
1P110016	MON RADIO COMM - ¢NASA 515, DESCEND AND MAINTAIN FLIGHT LEVEL THREE ONE ZERO	1	3.5		10	100	
1P110017	. CONTACT CENTER ON ONE THREE TWO POINT SEVEN FIVE, OVER!	1	3.5		10	100	
1P110018	RADIO COMM -¢NASA 515, ROGER. MAINTAIN FLIGHT LEVEL THREE ONE ZERO, CENTER	1	4.0		10		100
1P110019	ONE THREE TWO POINT SEVEN FIVE.	1	2.0		10		100
1P110020	CALL OUT -¢PULASKI VOR ON NAV 1!	1	2.5		10		100
1P130001	NON RADIO COMM - ¢NASA 515, FOR VEC- TORS TO INTERCEPT JAY EIGHT FIFTEEN R,	1	3.7		10	100	
1P130002	TURN LEFT HEADING TWO SEVEN ZERO, OVER	1	2.5		10	100	
1P130003	RADIO COMM - ¢515, ROGER. LEFT HEADING TWO SEVEN ZERO!	1	2.7		10		100
1P130004	MON RADIO COMM - ¢NASA 515, YOU ARE CLEARED TO THE AT- LANTA INTERNATIONAL	1	4.5		10	100	
1P130005	AIRPORT VIA JAY EIGHT FIFTEEN R AND SHINE OH ONE STAR. PTA AT LAKESIDE IS	1	4.5		10	100	
1P130006	TEN TWENTY ONE OH OH, OVER!	1	.5		10	100	
1P130007	MON RADIO COMM - ¢NASA 515, CONTACT CENTER ON ONE THREE FIVE POINT THREE	1	4		10	100	
1P130008	FIVE, OVER!	1	.3		10	100	
1P130009	RADIO COMM - ¢515, ROGER. ONE THREE FIVE POINT THREE	1	3.1		10		100
	FIVE!				10		1P1
1P130010	RADIO COMM - ¢515, ROGER. CLEARED TO ATLANTA VIA SHINE OH	1	4		10		100

	ONE. PTA LAKESIDE			10		
1P130011	TEN TWENTY ONE OH OH.!	1	3.5	10		100
1P140001	RADIO COMM -¢ATLANTA CENTER, THIS IS NASA 515 LEAVING FLIGHT LEVEL THREE THREE	1	4.0	10		100
1P140002	ZERO FOR FLIGHT LVL THREE ONE ZERO, OVER	1	2.0	10		100
1P140003	NON RADIO COMM - ¢NASA 515, ATLANTA CENTER, ROGER. SQUAWK IDENT!	1	3.0	10	100	
1P140004	MON RADIO COMM - ¢NASA 515, RADAR CONTACT!	1	2.0	10	100	
1P140005	MON RADIO COMM - ¢NASA 515, FOR VEC-TOR TO INTERCEPT PULASKI TWO TWO FIVE	1	3.27	10	100	
1P140006	RADIAL, TURN LEFT HEADING TWO FOUR ZERO, CLEARED TO THE ATLANTA INTERNA-	1	4.36	10	100	
1P140007	TIONAL AIRPORT VIA THE LANIER SIX AR-RIVAL, PULASKI TRAN-SITION, OVER!	1	4.36	10	100	
1P140008	RADIO COMM -¢515, ROGER, LEFT HEADING TWO FOUR ZERO FOR PULASKI TWO TWO FIVE	1	4.0	10		100
1P140009	RADIAL, LANIER SIX ARRIVAL.!	1	2.0	10		100
1P140010	MON RADIO COMM - ¢NASA 515, CONTACT CENTER ON ONE THREE TWO POINT EIGHT,OVER	1	3.5	10	100	
1P140011	RADIO COMM -¢NASA 515, ROGER. ONE THREE TWO POINT EIGHT.!	1	3.5	10		100
1P140012	RADIO COMM -¢ATLANTA CENTER, NASA 515 LEVEL AT FLIGHT LVL THREE ONE ZERO,OVER!	1	4.0	10		100
1P140013	MON RADIO COMM - ¢NASA 515, ATLANTA CENTER, ROGER. SQUAWK IDENT!	1	3.0	10	100	
1P140014	MON RADIO COMM- ¢NASA 515, RADAR CONTACT!	1	2.0	10	100	
1P140015	MON RADIO COMM - ¢NASA 515, DESCEND AND MAINTAIN FLIGHT LEVEL TWO FOUR ZERO.	1	3.9	10	100	
1P140016	REPORT LEAVING FLT LEVEL TWO SIX ZERO, OVER!	1	2.6	10	100	

1P140017	RADIO COMM -¢515, ROGER. MAINTAIN FLT LEVEL TWO FOUR ZERO. REPORT FLIGHT LEVEL	1	4.0	10		100
1P140018	TWO SIX ZERO!	1	1.0	10		100
1P140019	RADIO COMM -¢ATLANTA CENTER. NASA 515 LEAVING FLIGHT LEVEL TWO SIX ZERO. OVER!	1	4.0	10		100
1P140020	MOM RADIO COMM - ¢NASA 515. DESCEND AND MAINTAIN ONE ONE THOUSAND. CONTACT	1	3.75	10	100	
1P140021	CENTER ON ONE TWO FIVE POINT TWO.OVER!	1	2.50	10	100	
1P140022	RADIO COMM -¢NASA 515. ROGER. MAINTAIN ONE ONE THOUSAND. CENTER ONE TWO FIVE	1	4.0	10		100
1P140023	POINT TWO.!	1	1.0	10		100
1P140024	RADIO COMM -¢ATLANTA CENTER. THIS IS NASA 515 LEAVING FLIGHT LEVEL TWO FIVE ZERO	1	4.0	10		100
1P140025	FOR ONE ONE THOU-SAND. OVER!	1	2.0	10		100
1P140026	MON RADIO COMM - ¢NASA 515. ATLANTA CENTER. ROGER. SQUAWK IDENT. ALTI-	1	3.5	10	100	
1P140027	METER TWO NINER POINT EIGHT EIGHT!	1	2.5	10	100	
1P140028	MON RADIO COMM - ¢NASA 515. MAINTAIN ONE FIVE THOUSAND. CLEARANCE LIMIT IS	1	4.0	10	100	
1P140029	NOW LANIER INTERSEC- TION. HOLD NORTHWEST OF FIX ON NORCROSS ZERO FOUR ONE RADIAL	1	5.33	10	100	
1P140030	ONE AND ONE-HALF MINUTE RIGHT TURNS. EXPECT FURTHER CLEARANCE AT ONE	1	5.33	10	100	
1P140031	SEVEN ONE FIVE.OVER!	1	1.33	10	100	
1P140032	RADIO COMM -¢515. ROGER. MAINTAIN ONE FIVE THOUSAND. HOLD NORTHWEST OF LANIER	1	4.5	10		100
1P140033	INTERSECTION. RIGHT TURNS.!	1	1.5	10		100
1P140034	MON RADIO COMM - ¢NASA 515, CLEARED TO ATLANTA INTER- NATIONAL AIRPORT VIA	1	3.27	10	100	
1P140035	LAST ROUTING CLEARED . INCREASE SPEED TO TWO THREE ZERO KNOTS . DESCEND AND MAIN-	1	4.36	10	100	
1P140036	TAIN ONE ONE THOU-	1	4.36	10	100	

	SAND. EXPECT AN ILS RUNWAY ZERO EIGHT APPROACH, OVER!			10			
1P140037	RADIO COMM -¢515, ROGER. INCREASE SPD TWO THREE ZERO. MAINTAIN ONE ONE	1	4.5	10			100
1P140038	THOUSAND!	1	.5	10			100
1P140039	MON RADIO COMM - ¢NASA 515, CONTACT APPROACH CONTROL ON ONE TWO SIX POINT	1	4.0	10	100		
1P140040	NINER, OVER!	1	1.0	10	100		
1P140041	RADIO COMM -¢NASA 515, ROGER. APPROACH ON ONE TWO SIX POINT NINER!	1	4.0	10			100
1P140042	CALL OUT -¢TOCCOA VOR ON NAV 2 !	1	2.3	10			100
1P140043	CALL OUT -¢ALTIMETER SETTING IS TWO NINER POINT EIGHT!	1	2.4	10			100
1P140044	CALL OUT -¢NORCROSS VOR ON NAV 1 !	1	2.3	10			100
1P140045	CALL OUT -¢1000 FEET TO LEVEL OFF!	1	1.7	10			100
1P140046	CALL OUT -¢CHATA-NOOGA VOR ON NAV 2!	1	2.3	10			100
1P140047	CALL OUT -¢THIRTY SECONDS!	1	.8	10			100
1P140048	CALL OUT -¢SIXTY SECONDS!	1	.8	10			100
1P140049	CALL OUT -¢EIGHTY FIVE SECONDS!	1	.8	10			100
1P150001	MON RADIO COMM - ¢NASA 515, REPORT LEAVING FLIGHT LEVEL TWO SIX ZERO. ALTI-	1	4	10	100		
1P150002	METER TWO NINER EIGHT EIGHT, OVER!	1	2	10	100		
1P150003	RADIO COMM - ¢515 ROGER. REPORT FLIGHT LEVEL TWO SIX ZERO.!	1	3	10			100
1P150005	MON RADIO COMM - ¢NASA 515, ROGER. CONTACT CENTER ON ONE TWO FIVE POINT	1	3	10	100		
1P150006	TWO, OVER.!	1	1.5	10	100		
1P150007	RADIO COMM - ¢515, ROGER. CENTER ONE TWO FIVE POINT TWO.!	1	3.3	10			100
1P150008	MON RADIO COMM - ¢NASA 515, ATLANTA CENTER, ROGER. SQUAWK IDENT!	1	3.7	10	100		
1P150009	MON RADIO COMM - ¢NASA 515, DUE TO TRAFFIC YOUR PLANNED TIME OF ARRIVAL AT	1	4	10	100		
1P150010	LAKESIDE IS NOW	1	4	10	100		

	10:22:15 . OVER!			10			
1P150011	RADIO COMM - ¢515, ROGER, TIME OF ARRIVAL NOW 10:22:15!	1	4.5	10			100
1P150012	CALL OUT -¢FLIGHT PLAN UPDATED WITH NEW ALTITUDE!	1	2	10			100
1P150013	CALL OUT -¢ALTIMETER BARO SETTING IS TWO NINER EIGHT EIGHT¢	1	2.7	10			100
1P150014	CALL OUT -¢FLIGHT PLAN UPDATED WITH NEW PTA AT LAKESIDE!	1	3	10			100
1P160001	MON RADIO COMM - ¢INFORMATION LIMA: ONE SEVEN ZERO FIVE OBSERVATION- TWO	1	3.42	10	100		
1P160002	FIVE HUNDRED SCATTERED CEILING FOUR THOUSAND BROKEN. VISIBILITY ONE SIX.	1	4.56	10	100		
1P160003	TEMPERATURE FIVE NINER. WIND ONE ONE ZERO DEGREES AT TEN GUSTING TO ONE SEVEN	1	4.56	10	100		
1P160004	. ALTIMETER TWO - NINER EIGHT FOUR. SIMULTANEOUS PARALLEL APPROACHES IN	1	4.56	10	100		
1P160005	OPERATION ON RUNWAYS ZERO EIGHT AND NINER RIGHT. ADVISE CONTROLLER ON INITIAL	1	4.56	10	100		
1P160006	CONTACT YOU HAVE INFORMATION LIMA.!	1	2.28	10	100		
1P160007	RADIO COMM -¢ATLANTA APPROACH CONTROL, THIS IS NASA 515 LEVEL AT ONE ONE	1	4.8	10			100
1P160008	THOUSAND WITH INFORMATION LIMA OVER!	1	2.8	10			100
1P160009	MON RADIO COMM - ¢NASA 515, ROGER. SQUAWK IDENT.!	1	2.5	10	100		
1P160010	MON RADIO COMM - ¢NASA 515. TURN LEFT HEADING TWO ONE ZERO REDUCE SPEED TO TWO	1	4	10	100		
1P160011	ZERO ZERO. OVER!	1	2	10	100		
1P160012	RADIO COMM -¢515, ROGER. LEFT HEADING TWO ONE ZERO. SLOW TO TWO ZERO ZERO!		5	10			100
1P160013				10			
1P160014	MON RADIO COMM - ¢NASA 515, REDUCE SPEED TO ONE NINER ZERO KNOTS, OVER!	1	4.8	10	100		
1P160015	RADIO COMM - ¢515, ROGER. ONE IONER	1	2.5	10			100

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	Weighted Channel Average	8 1/B9 33 1/F3
	Workload Summaries (WLS)	
	Cruise	9 1/B11 34 1/F5
	Descent	10 1/B13 35 1/F7
	Metering and Spacing	11 1/C1 36 1/F9
	Final Approach/Landing	12 1/C3 37 1/F11
	Mission Timeline (MTL)	
	Cruise	13 1/C5 38 1/F13
	Descent	18 1/D1 41 1/G5
	Metering and Spacing	22 1/D9 44 1/G11
	Final Approach/Landing	26 1/E3 47 2/A7
2.2	Byers 2D Approach	
	Workload Histogram (WLH)	
	Total Vision	51 2/B1 75 2/E7
	Total Motor	52 2/B3 76 2/E9
	Cognition	53 2/B5 77 2/E11
	Total Communications	54 2/B7 78 2/E13
	Weighted Channel Average	55 2/B9 79 2/F1

SECTION NO.	TITLE	PAGE			
		Pilot		Copilot	
	Cruise	56	2/B11	80	2/F3
	Descent	57	2/B13	81	2/F5
	Metering and Spacing	58	2/C1	82	2/F7
	Final Approach/Landing	59	2/C3	83	2/F9
	Mission Timeline (MTL)				
	Cruise	60	2/C5	84	2/F11
	Descent	63	2/C11	87	2/G3
	Metering and Spacing	67	2/D5	91	2/G11
	Final Approach/Landing	71	2/D13	94	3/A7
2.3	Longmont Manual Approach				
	Workload Histogram (WLH)				
	Total Vision	98	3/B1	128	3/F5
	Total Motor	99	3/B3	129	3/F7
	Cognition	100	3/B5	130	3/F9
	Total Communications	101	3/B7	131	3/F11
	Weighted Channel Average	102	3/B9	132	3/F13
	Workload Summaries (WLS)				
	Cruise	103	3/B11	133	3/G1
	Holding Pattern	104	3/B13	134	3/G3
	Descent to 11,000	105	3/C1	135	3/G5
	Descent to 8000	106	3/C3	136	3/G7
	Metering and Spacing	107	3/C5	137	3/G9
	Final Approach/Landing	108	3/C7	138	3/G11
	Mission Timeline (MTL)				
	Cruise	109	3/C9	139	3/G13
	Holding Pattern	114	3/D5	145	4/B1
	Descent to 11,000	116	3/D9	148	4/B7

SECTION NO.	TITLE	PAGE Pilot	PAGE Copilot
	Descent to 8000	1183/D13	151 4/B13
	Metering and Spacing	1213/E5	155 4/C7
	Final Approach/Landing	1243/E11	160 4/D3
2.4	Longmont 2D Approach		
	Workload Histogram (WLH)		
	Total Vision	1654/D13	195 5/B7
	Total Motor	1664/E1	196 5/B9
	Cognition	1674/E3	197 5/B11
	Total Communications	1684/E5	198 5/B13
	Weighted Channel Average	1694/E7	199 5/C1
	Workload Summaries (WLS)		
	Cruise	1704/E9	200 5/C3
	Holding Pattern	1714/E11	201 5/C5
	Descent to 11,000	1724/E13	202 5/C7
	Descent to 8000	1734/F1	203 5/C9
	Metering and Spacing	1744/F3	204 5/C11
	Final Approach/Landing	1754/F5	205 5/C13
	Mission Timeline (MTL)		
	Cruise	1764/F7	206 5/D1
	Holding Pattern	1804/G1	213 5/E1
	Descent to 11,000	1824/G5	216 5/E7
	Descent to 8000	1844/G9	219 5/E13
	Metering and Spacing	1875/A5	223 5/F7
	Final Approach/Landing	1915/A13	228 5/G3

SECTION NO.	TITLE	PAGE	
		Pilot	Copilot
3.0	METERING AND SPACING DATA FILE	233 5/G13	
	Phase Library	234 6/A5	234 6/A5
	Event/Procedure Library	236 6/A9	236 6/A9
	Task Library	293 7/C1	293 7/C1
	Subsystem Library	359 9/D3	359 9/D3

	ZERO KNOTS!			10		
1P160016	MON RADIO COMM - ¢NASA 515, CONTACT APPROACH CONTROL ON ONE TWO SEVEN POINT	1	4.0	10	100	
1P160017	TWO FIVE, OVER!	1	1.0	10	100	
1P160018	RADIO COMM-¢515, ROGER. ONE TWO SEVEN POINT TWO FIVE!	1	3.0	10		100
1P160019	RADIO COMM -¢ATLANTA APPROACH CONTROL, THIS IS NASA 515 LEVEL AT ONE ONE	1	3.5	10		100
1P160020	THOUSAND, OVER!	1	.75	10		100
1P160021	MON RADIO COMM - ¢NASA 515, ATLANTA APPROACH. ROGER. SQUAWK IDENT!	1	3.5	10	100	
1P160022	MON RADIO COMM - ¢NASA 515, TURN RT HEADING TWO SEVEN ZERO. REDUCE SPEED	1	3.0	10	100	
1P160023	TO ONE SEVEN ZERO KNOTS. DESCEND AND MAINTAIN FOUR FIVE HUNDRED, OVER!	1	4.0	10	100	
1P160024	RADIO COMM -¢515, ROGER. LEFT HEADING TWO SEVEN ZERO. SLOW TO ONE SEVEN ZERO.	1	4.0	10		100
1P160025	MAINTAIN FOUR FIVE HUNDRED.!	1	2.0	10		100
1P160026	MON RADIO COMM - ¢NASA 515, TURN LEFT HEADING ONE EIGHT ZERO, OVER!	1	3.5	10	100	
1P160027	RADIO COMM -¢515 ROGER. LEFT HEADING ONE EIGHT ZERO.!	1	3.0	10		100
1P160028	MON RADIO COMM - ¢NASA 515, YOU ARE FOURTEEN MILES FROM THE OUTER MARKER.	1	3.21	10	100	
1P160029	TURN LEFT HEADING ONE TWO ZERO FOR VECTOR TO INTERCEPT FINAL APPROACH	1	4.28	10	100	
1P160030	COURSE. YOU ARE CLEARED FOR AN ILS RUNWAY ZERO EIGHT APPROACH. CONTACT	1	4.28	10	100	
1P160031	TOWER AT THE OUTER MARKER ON ONE ONE NINER POINT FIVE, OVER!	1	3.21	10	100	
1P160032	RADIO COMM- ¢515, ROGER. LEFT HEADING ONE TWO ZERO. ILS RUNWAY ZERO EIGHT	1	4.0	10		100
1P160033	APPROACH. TOWER AT	1	3.0	10		100

	OUTER MARKER ON ONE ONE NINER POINT FIVE			10			
1P160034	MON RADIO COMM-¢NASA 515, REDUCE SPEED TO ONE FIVE ZERO KNOTS OVER!	1	3.5	10	100		
1P160035	RADIO COMM -¢515, ROGER. ONE FIVE ZERO KNOTS!	1	2.5	10		100	
1P160036	MON RADIO COMM -¢NASA 515, MAINTAIN CURRENT SPEED UNTIL CROSSING STUBBS,OVER	1	3.5	10	100		
1P160037	RADIO COMM -¢515, ROGER!	1	1.7	10		100	
1P160038	RADIO COMM-¢ATLANTA TOWER, THIS IS NASA 515 OVER LAKESIDE INBOUND FOR RUNWAY	1	4.0	10		100	
1P160039	ZERO EIGHT, OVER!	1	1.0	10		100	
1P160040	MON RADIO COMM -¢NASA 515, ATLANTA TOWER, ROGER. CLEAR TO LAND RUNWAY ZERO	1	4.0	10	100		
1P160041	EIGHT. WIND ONE ONE ZERO DEGREES AT ZERO NINER.!	1	3.0	10	100		
1P160042	CALL OUT-¢ALTIMETER BARO SETTING IS TWO NINER POINT EIGHT FOUR!	1	3.5	10		100	
1P160043	CALL OUT-¢DESCENT AND APPROACH CHECK-LIST!	1	2	10		100	
1P160044	CALL OUT-¢ANTI-ICE!	1	1	10		100	
1P160045	CALL OUT-¢NOT REQD!	1	.8	10		100	
1P160046	CALL OUT -¢AIR CONDITIONING AND PRESSURIZATION!	1	1.8	10		100	
1P160047	CALL OUT ¢SET!	1	.4	10		100	
1P160048	CALL OUT-¢START SWITCHES!	1	.9	10		100	
1P160049	CALL OUT ¢FLIGHT!	1	.5	10		100	
1P160050	CALL OUT-¢INBOARD LANDING LIGHTS!	1	1.1	10		100	
1P160051	CALL OUT -¢ON!	1	.3	10		100	
1P160052	CALL OUT -¢ALTIMETER AND INSTRUMENTS!	1	1.4	10		100	
1P160053	CALL OUT-¢SET AND CROSSCHECKED!	1	1.3	10		100	
1P160054	CALL OUT-¢EPR AND IAS BUGS!	1	1.5	10		100	
1P160055	CALL OUT -¢V-REF IS XXX KNOTS!	1	1.9	10		100	
1P160056	CALL OUT -¢BUGS SET AND CROSS-CHECKED!	1	1.6	10		100	
1P160057	CALL OUT -¢CHECKLIST COMPLETED!	1	1.3	10		100	
1P160058	CALL OUT -¢FLAPS 1!	1	.7	10		100	
1P160059	CALL OUT -¢RUNWAY 08	1	2.9	10		100	

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          ILS IS ON NAV 1!                                    10
1P160060  CALL OUT -¢REG VOR   1     2                        10      100
          IS ON NAV 2!                                        10
1P160061  CALL OUT -¢FLAPS 5!  1    .7                        10      100
1P160062  CALL OUT -¢FLAPS 15! 1    .7                        10      100
1P160063  MON RADIO COMM -     1     4                        10 100
          ¢NASA 515, REDUCE                                   10
          SPEED TO ONE SIX                                    10
          ZERO KNOTS, OVER!                                   10
1P160064  RADIO COMM-¢515,     1   2.5                        10      100
          ROGER. ONE SIX ZERO                                 10
          KNOTS!                                              10
1P160065  CALL OUT -¢LAKESIDE  1   1.5                        10      100
          ON ADF-1!                                           10
1P160066  CALL OUT -¢LAKESIDE  1   1.5                        10      100
          ON ADF-2!                                           10
1P160067  CALL OUT -¢LOCALIZER 1   1.3                        10      100
          ALIVE!                                              10
1P160068  CALL OUT-¢I HAVE     1   1.5                        10      100
          NAV 2 DATA!                                         10
1P160069  CALL OUT -¢ILS ON    1   1.5                        10      100
          NAV 1!                                              10
1P160070  CALL OUT -¢FLAPS 25! 1    .7                        10      100
1P160071  CALL OUT -¢GLIDE     1     1                        10      100
          SLOPE ALIVE!                                        10
1P160072  CALL OUT -¢CROSSING  1     1                        10      100
          STUBBS!                                             10
1P160073  CALL OUT -¢FLAPS 40! 1    .7                        10      100
1P160074  CALL OUT -¢RUNWAY IN 1     1                        10      100
          SITE!                                               10
1P160075  CALL OUT -¢GEAR DOWN 1   1.8                        10      100
          AND LANDING CHECK-                                  10
          LIST!                                               10
1P160076  CALL OUT -¢RECALL!   1    .6                        10      100
1P160077  CALL OUT -¢CHECKED!  1    .4                        10      100
1P160078  CALL OUT -¢SPEED     1    .7                        10      100
          BRAKES!                                             10
1P160079  CALL OUT -¢ARMED -   1   1.3                        10      100
          GREEN LIGHT!                                        10
1P160080  CALL OUT -¢LANDING   1    .7                        10      100
          GEAR!                                               10
1P160081  CALL OUT -¢DOWN,     1     1                        10      100
          THREE GREEN!                                        10
1P160082  CALL OUT -¢FLAPS!    1    .4                        10      100
1P160083  CALL OUT -¢FORTY,    1   1.1                        10      100
          GREEN LIGHT!                                        10
1P160084  CALL OUT -¢CHECKLIST 1   1.1                        10      100
          COMPLETE!                                           10
1P160085  CALL OUT -¢FIVE HUN- 1   1.6                        10      100
          DRED FEET ABOVE RUN-                                10
          WAY!                                                10
1P160086  CALL OUT -¢DECISION  1    .8                        10      100
          HEIGHT!                                             10
1P160087  MON RADIO COMM -     1   3.5                        10 100
          ¢NASA 515,EXIT RUN-                                 10
          WAY NEXT INTERSEC-                                  10
          TION. CONTACT GROUND                                10
1P160088  POINT NINER WHEN     1   2.5                        10 100
          CLEAR OF RUNWAY,                                    10
          OVER!                                               10
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1P160089	RADIO COMM -¢515, ROGER. POINT NINER WHEN CLEAR!	1	2.5	10		100
1P160090	RADIO COMM -¢ATLANTA GROUND, THIS IS NASA 515. TAXI TO GATE X, OVER!	1	3.5	10		100
1P160091	MON RADIO COMM - ¢NASA 515, ATLANTA GROUND, TAXI TO RAMP VIA NORTHEAST=SOUTH-	1	3.5	10	100	
1P160092	WEST TAXIWAY, OVER!	1	1.0	10	100	
1P16EK01	RADIO COMM - ¢APPROACH CONTORL, THIS IS NASA 515. THE PILOT IS INCA-	1	3	10		100
1P16EK02	PACITATED. I WILL MAKE A NORMAL ILS APPROACH AND LAND- ING. REQUEST AN AM-	1	4	10		100
1P16EK03	BULANCE TO STANDBY AT GATE X,OVER!	1	3	10		100
1P16EK04	MON RADIO COMM- ¢NASA 515, APPROACH CONTROL. UNDERSTAND THAT YOUR PILOT IS	1	3	10	100	
1P16EK05	INCAPACITATED AND REQUEST AMBULANCE. WILL USE NORMAL ILS APPROACH AND LAND.	1	4	10	100	
1P16EK06	ADVISE IF YOU RE- QUIRE SPEICAL HAND- LING.!	1	3	10	100	
1P16EK07	PACITATED. I WILL MAKE A NORMAL MLS APPROACH AND LAND- ING. REQUEST AN AM-	1	4	10		100
1P16EK08	INCAPACITATED AND REQUEST AMUBLANCE. WILL USE NORMAL MLS APPROACH AND LAND.	1	4	10		100
1P16FB01	CALL-OUT (RIGHT MAIN GEAR UNSAFE, RECYCLING NOW)	1	3.5	10		100
1P16FB02	CALL-OUT (RIGHT MAIN GEAR STILL UNSAFE)	1	3.2	10		100
1P16FB03	CALL-OUT (GOING AROUND NOW, SET FLAP 15, GEAR UP)	1	3.3	10		100
1P16FB04	CALL-OUT (FLAPS 15)	1	1.0	10		100
1P16FB05	CALL-OUT (BUG + 15)	1	1.4	10		100
1P16FB06	CALL-OUT (GEAR UP, OFF)	1	2	10		100
1P16FB07	RADIO-CALL (ATL TWR NASA 515 ON THE GO WITH GEAR FAILURE)	1	3.5	10		100
1P16FB08	RADIO-COMM (NASA 515 CLIMB STRAIGHT AHEAD TO 3000 AND 170 SAY YOUR INTENTIONS)	1	5.4	10	100	

1P16FB09	RADIO-CALL (ATL NASA 515 ROGER 3000 AND 170 REQUEST ILS RUNWAY 08 WE WILL)	1	5.5	10			
1P16FB10	CALL-OUT (SET FLAPS 5 REPORT 3000 REPORT 170 KNOTS)	1	4.5	10		100	
1P16FB11	CALL-OUT (FLAPS 5)	1	.8	10		100	
1P16FB12	CALL-OUT (3000)	1	.8	10		100	
1P16FB13	RADIO-CALL (ATL TWR NASA 515 LEVEL 3000)	1	2.8	10		100	
1P16FB14	RADIO-COMM (NASA 515 ROGER TURN LEFT HDG 045 CNCT APPCON 127.25 FOR RADAR TO ILS)	1	7.5	10	100		
1P16FB15	CALL-OUT (170 KNOTS)	1	1.0	10		100	
1P16FB16	RADIO-CALL (ATL NASA 515 LEFT TO 045 APP CONTROL 127.25)	1	5	10		100	
1P16FB17	CALL-OUT (GET GEAR UNSAFE CHECKLIST)	1	1.5	10		100	
1P16FB18	CALL-OUT (GEAR LEVER OFF)	1	1	10		100	
1P16FB19	CALL-OUT (MANUAL EXTENTIONS NOW)	1	1.2	10		100	
1P16FB20	CALL-OUT (DOWN 3 GREEN)	1	1.2	10		100	
1P16FB21	TEXT AND(GEAR MANUAL BEFORE FINAL)	1	2.8	10		100	
1P170001	MON RADIO COMM - ¢NASA 515, REDUCE SPEED TO TWO ZERO ZERO KNOTS, OVER!	1	4	10	100		
1P170002	RADIO COMM -¢515, ROGER, SLOW TO TWO ZERO ZERO¢	1	3	10		100	
1P170003	MON RADIO COMM - ¢NASA 515, TURN LEFT HEADING TWO ONE ZERO , OVER!	1	3.7	10	100		
1P170004	RADIO COMM -¢515, ROGER, LEFT HEADING TWO ONE ZERO!	1	2.8	10		100	
1P170005	MON RADIO COMM - ¢NASA 515, TURN RT HEADING TWO SEVEN ZERO, REDUCE SPEED	1	3.5	10	100		
1P170006	TO ONE EIGHT ZERO. DESCEND AND MAINTAIN SIX THOUSAND, OVER!	1	3.5	10	100		
1P170007	RADIO COMM - ¢515, ROGER, RIGHT HEADING TWO SEVEN ZERO, SLOW TO ONE EIGHT ZERO.	1	4.0	10		100	
1P170008	MAINTAIN SIX THOU-SAND!	1	1.5	10		100	
1P200009	CALL OUT -¢OFF!	1	0.5	10		100	
1P170009	MON RADIO COMM - ¢NASA 515, TURN LEFT HEADING ONE EIGHT	1	3.5	10	100		

	ZERO, DESCEND AND			10		
1P170010	MAINTAIN THREE SIX HUNDRED, OVER!	1	1.5	10	100	
1P170011	RADIO COMM -¢515, ROGER. LEFT HEADING ONE EIGHT ZERO, MAINTAIN THREE SIX	1	3.5	10		100
1P170012	HUNDRED!	1	.5	10		100
1P170013	MON RADIO COMM - ¢NASA 515, REDUCE SPEED TO ONE SIX ZERO KNOTS, OVER!	1	3.5	10		100
1P170014	RADIO COMM -¢515, ROGER. SLOW TO ONE SIX ZERO!	1	3.0	10		100
1P170015	MON RADIO COMM - ¢NASA 515, YOU ARE SIX MILES FROM THE APPROACH GATE. YOU	1	3.0	10	100	
1P170016	ARE CLEARED FOR AN MLS RUNWAY ZERO EIGHT APPROACH. CONTACT ATLANTA TOWER	1	4.0	10	100	
1P170017	AFTER CROSSING GATE AT ONE NINER POINT FIVE. OVER!	1	3.0	10	100	
1P170018	RADIO COMM -¢515, ROGER. MSL RUNWAY ZERO EIGHT APPROACH, TOWER AFTER GATE ON	1	4.0	10		100
1P170019	ONE NINER POINT FIVE	1	1.0	10		100
1P170020	MON RADIO COMM - ¢NASA 515, MAINTAIN CURRENT SPEED UNTIL CROSSING APPROACH	1	3.5	10	100	
1P170021	GATE, OVER!	1	.75	10	100	
1P170022	RADIO COMM -¢ATLANTA TOWER, THIS IS NASA 515, OVER APPROACH GATE FOR RUNWAY	1	4.0	10		100
1P170023	ZERO EIGHT, OVER!	1	1.0	10		100
1P170024	MON RADIO COMM - ¢NASA 515, ATLANTA TOWER, ROGER. CLEARED TO LAND RUNWAY	1	3.5	10	100	
1P170025	ZERO EIGHT. WIND ONE ONE ZERO AT ZERO NINER.!	1	3.5	10	100	
1P170026	CALL OUT -¢RNWY MLS FREQ ON NAV 1 AND NAV 2!	1	3	10		100
1P180001	MON RADIO COMM - ¢NASA 515, CONTACT ATLANTA TOWER ON ONE ONE NINER POINT FIVE	1	4	10	100	
1P180002	, OVER.!	1	.5	10	100	
1P180003	RADIO COMM - ¢515, ROGER. ONE ONE NINER POINT FIVE.!	1	2.7	10		100
1P180004	MON RADIO COMM -	1	4	10	100	

	¢NASA 515, CONTACT TOWER AT THE OUTER MARKER ON ONE ONE			10 10 10		
1P180005	NINER POINT FIVE, OVER.!	1	1.5	10 10	100	
1P180006	RADIO COMM -¢515, ROGER, TOWER AT OUTER MARKER ON ONE ONE NINER POINT FIVE	1	4	10 10 10 10		100
1P200001	INTPHN COMM -¢ADVISE WHEN CHOCKS IN PLACE!	1	1.8	10 10 10		100
1P200002	MON INTPHN COMM - ¢ROGER!	1	0.6	10 10		100
1P200003	MON INTPHN COMM - ¢CHOCKS IN PLACE!	1	1.1	10 10		100
1P200004	INTPHN COMM -¢ROGER!	1	0.6	10		100
1P200005	CALL OUT-¢SHUTDOWN CHECKLIST!	1	1.2	10 10		100
1P200006	CALL OUT -¢FUEL!	1	0.7	10		100
1P200007	CALL -¢PUMPS OFF!	1	0.8	10 10		100
1P200008	CALL OUT -¢GALLEY POWER!	1	0.9	10 10		100
1P200010	CALL OUT- ¢ELECTRI-CAL!	1	1	10 10		100
1P200011	CALL OUT -¢ON!	1	0.7	10		100
1P200012	CALL OUT -¢EMERGENCY EXIT LIGHTS!	1	1.1	10 10		100
1P200013	CALL OUT -¢SEAT BELT LIGHT!	1	1.2	10 10		100
1P200014	CALL OUT -¢WINDOW HEAT!	1	1	10 10		100
1P200015	CALL OUT -¢PITOT HEAT!	1	1	10 10		100
1P200016	CALL OUT -¢ANTI-ICE!	1	1.2	10		100
1P200017	CALL OUT -¢SYSTEM B PUMPS!	1	1.5	10 10		100
1P200018	CALL OUT -¢AIR COND AND PRESSURIZATION!	1	2.1	10 10		100
1P200019	CALL OUT -¢ONE PACK, GROUND/BLEEDS ON, GROUND!	1	3	10 10 10		100
1P200020	CALL OUT-¢ANTI-COL-LISSION LT!	1	1.2	10 10		100
1P200021	CALL OUT-¢START SWITCHES!	1	1.2	10 10		100
1P200022	ALL OUT-¢AUTO BRAKES!	1	1	10 10		100
1P200023	CALL OUT-¢RADAR AND TRANSPONDER!	1	1.4	10 10		100
1P200024	CALL OUT-¢SPEED-BRAKE!	1	1	10 10		100
1P200025	CALL OUT-¢FLAPS!	1	0.8	10		100
1P200026	CALL OUT-¢PARKING BRAKES!	1	1	10 10		100
1P200027	CALL OUT- ¢START LEVERS!	1	1	10 10		100
1P200029	CALL OUT -¢UP!	1	0.6	10		100
1P200030	CALL OUT- ¢DOWN	1	1.2	10		100

	DETENT!						10			
1P200031	CALL OUT -¢RELEASED	1	1				10		100	
1P200032	CALL OUT- ¢CUTOFF!	1	0.9				10		100	
1P200033	CALL OUT -¢OXYGEN	1	1.5				10		100	
	REGULATOR!						10			
1P200034	CALL OUT -¢OFF,100!	1	2.5				10		100	
1P200035	CALL OUT -¢CHECKLIST	1	2.5				10		100	
	COMPLETE DOWN TO						10			
	SECURE!						10			
1P200036	CALL OUT - ¢APU!	1	1				10		100	
1P200037	CALL OUT -¢BATTERY!	1	1				10		100	
1P200038	CALL OUT -¢SHUTDOWN	1	1.5				10		100	
	CHECKLIST COMPLETE!						10			
1P200039	CALL OUT -¢CONTINUE	1	1.2				10		100	
	CHECKLIST!						10			
1P200040	MON INTPHN COMM -	1	1.5				10	100		
	¢TESTING,TESTING,						10			
	OVER!						10			
1P200041	INTPHN COMM -	1	3				10		100	
	¢ROGER, HEAR YOU						10			
	LOUD AND CLEAR. ARE						10			
	CHOCKS SET. OVER!						10			
1P200042	MON INTPHN COMM -	1	.8				10	100		
	¢CHOCKS IN PLACE !						10			
1Q 01	MON VHF-1L FREQ IND	1	.77	100			10			
		2	4.48	90			10			
		3	4.97	90			10			
		4	4.97	90			10			
1Q 02	SET VHF-1L FREQ-	1	2.90	10		100	10			
	WHOLE NO.	2	3.00	10	100		10			
1Q 03	SET VHF-1L FREQ-	1	1.58	10		100	10			
	FRACTIONS	2	1.97	10	100		10			
1Q 04	ADJ VHF-1L VOLUME	1	1.58	10		100	10			
		2	2.15	10		100	10			
		3	1.58	10	100		10			
		4	2.15	10	100		10			
1Q 05	SET VHF-1L COMM TRR	1	1.45	20	100		10			
	SW TO LEFT	2	1.45	20			10			
1Q 06	SET VHF-1L COMM TFR	1	1.45	20		100	10			
	SW TO RIGHT	2	1.45	20	100		10			
1Q 07	MON VHF-1R FREQ IND	1	.77	100			10			
		2	3.64	90			10			
		3	4.51	90			10			
		4	5.94	90			10			
1Q 08	SET VHF-1R FREQ-	1	2.05	10		100	10			A
	WHOLE NUMBERS	2	2.93	10		100	10			
		3	2.05	10	100		10			AC
		4	2.97	10	100		10			AC
1Q 09	SET VHF-1R FREQ-	1	1.58	10		100	10			
	FRACTIONS	2	1.97	10	100		10			AC
1Q 10	ADJ VHF-1R VOLUME	1	1.58	0		100	10			
		2	2.18	50		100	10			
		3	1.58	0	100		10			
		4	2.18	50	100		10			
1Q 11	SET COMM 1 MIC SEL	1	2.71	100		100	10			A
	SW TO VHF-1	2	2.80	100	100		10			AC
1Q 12	SET COMM 1 VHF-1	1	2.21	100		100	10			A
	COMM RECVR SW TO ON	2	2.34	100	100		10			AC
1Q 13	SET COMM 1 VHF-1	1	2.21	100		100	10			
	COMM RECVR SW TO OFF	2	2.34	100	100		10			

1Q	14 ACT COMM 1 PTT SW	1	1.40	20		100	10		
		2	1.39	20	100		10		
		3	5.00	5	100		10		
		4	12.00	3	100		10		
1Q	15 COMM VIA VHF-1	1	5				10		
		2	12				10		
		3	1.7				10		
		4	7				10		
1Q	16 MON VHF-1 COMM AUDIO	1	12				10		
		2	7				10		
		3	6				10		
		4	3				10		
1Q	17 SET COMM 2 VHF-1	1	2.29	100		100	10		A
	COMM RECVR SW TO ON	2	2.27	100	100		10		AC
1Q	18 SET COMM 2 VHF-1	1	2.29	100		100	10		
	COMM RECVR SW TO OFF	2	2.27	100	100		10		
1Q	19 SET COMM 2 MIC SEL	1	2.79	100		100	10		A
	SW TO VHF-1	2	2.71	100	100		10		AC
1Q	20 SET COMM 3 VHF-1	1	2.46	100		100	10		A
	COMM RECVR SW TO ON	2	2.45	100	100		10		AC
1Q	21 SET COMM 3 VHF-1	1	2.46	100		100	10		
	COMM RECVR SW TO OFF	2	2.45	100	100		10		
1Q	22 SET COMM 3 MIC SEL	1	2.97	100		100	10		A
	SW TO VHF-1						10		
1Q	23 ACT COMM 1 PUSH-TO-	1	1.7		100		10		
	TALK SW	2	3.5		100		10		
1Q	24 ACTUATE PUSH-TO-TALK	1	7			100	10		
	SW ON CONTROL HAND-	2	1.7			100	10		
	GRIP	3	3.5			100	10		
		4	3			100	10		
1Q	28 COMM VIA VHF-1	1	3.5				10		
		2	3				10		
1Q	30 MON VHF-1 COMM AUDIO	1	5				10		
		2	4				10		
		3	24				10		
1R	01 MON VHF-2L FREQ IND	1	.76	100			10		
		2	4.55	90			10		
		3	4.51	90			10		
1R	02 SET VHF-2L FREQ	1	2.97	10	100		10		
	WHOLE NUMBERS	2	2.93	10	100		10		
1R	03 SET VHF-2L FREQ	1	1.58	10		100	10		
	FRACTIONS	2	1.58	10	100		10		
		3	1.97	10	100		10		
1R	04 ADJ VHF-2L VOLUME	1	1.58			100	10		
		2	2.97	50		100	10		
		3	1.58		100		10		
		4	2.97	50	100		10		
1R	05 SET VHF-2 COMM TFR	1	1.47	20		100	10		
	SW TO LEFT	2	1.47	20	100		10		
1R	06 SET VHF-2 COMM TFR	1	1.47	20		100	10		
	SW TO RIGHT	2	1.47	20	100		10		
		3	1.97	20	100		10		
1R	07 MON VHF-2R FREQ IND	1	.77	100			10		
		2	4.58	80			10		
		3	4.48	80			10		
1R	08 SET VHF-2R FREQ-	1	2.03	10		100	10		
	WHOLE NO.S	2	3.00	10		100	10		
		3	2.03	10	100		10		
		4	2.90	10	100		10		
1R	09 SET VHF-2R FREQ-	1	1.58	10		100	10		

		FRACTIONS	2	1.58		10	100		10	
			3	1.97		10	100		10	
1R	10	ADJ VHF-2R VOLUME	1	1.58				100	10	
			2	3.00		50		100	10	
			3	1.58			100		10	
			4	3.00		50	100		10	
1R	11	SET COMM 2 MIC SEL SW TO VHF-2	1	2.79		100		100	10	A
			2	2.71		100	100		10	AC
1R	12	SET COMM 2 VHF-2 COMM RECVR SW TO ON	1	1.43		100		100	10	A
			2	1.43		100	100		10	AC
1R	13	SET COMM 2 VHF-2 COMM RECVR SW TO OFF	1	1.43		100		100	10	
			2	1.43		100	100		10	
1R	14	ACT COMM 2 PTT SW	1	1.41		20			10	
			2	1.41		20			10	
			3	5.50		5			10	
			4	3.50		10			10	
1R	15	COMM VIA VHF-2	1	3.7					10	
			2	5.5					10	
			3	3.5					10	
			4	4					10	
1R	16	MON VHF-2 COMM AUDIO	1	5.5					10	
			2	3.5					10	
			3	3.2					10	
			4	5					10	
1R	17	SET COMM 1 VHF-2 COMM RECVR SW TO ON	1	1.42		100		100	10	A
			2	1.42		100	100		10	AC
1R	18	SET COMM 1 VHF-2 COMM RECVR SW TO OFF	1	1.42		100		100	10	
			2	1.42		100	100		10	
1R	19	SET COMM 1 MIC SEL SW TO VHF-2	1	2.71		100		100	10	A
			2	2.80		100	100		10	AC
1R	20	SET COMM 3 VHF-2 COMM RECVR SW TO ON	1	1.43		100		100	10	A
			2	1.43		100	100		10	
1R	21	SET COMM 3 VHF-2 COMM RECVR SW TO OFF	1	1.43		100		100	10	
			2	1.43		100	100		10	
1R	22	SET COMM 3 MIC SEL SW TO VHF-2	1	2.97		100		100	10	A
									10	
1R	23	ACT PUSH-TO-TALK SW ON CONTROL HANDGRIP	1	3.7				100	10	
			2	4.8				100	10	
			3	2.5				100	10	
			4	1.5				100	10	
1R	24	ACT PUSH-TO-TALK SW ON CONTROL HANDGRIP	1	1.7				100	10	
			2	2.3				100	10	
			3	3.1				100	10	
			4	4				100	10	
1R	25	ACT PUSH-TO-TALK SW ON CONTROL HANDGRIP	1	6.8				100	10	
			2	4.4				100	10	
			3	3				100	10	
			4	6				100	10	
1R	26	ACT PUSH-TO-TALK SW ON CONTROL HANDGRIP	1	4.2				100	10	
			2	5				100	10	
			3	2.7				100	10	
			4	7.5				100	10	
1R	27	ACT COMM 2 PUSH-TO-TALK SW	1	4.6			100		10	
			2	1.7			100		10	
			3	4.2			100		10	
			4	4			100		10	
1R	28	ACT COMM 2 PUSH-TO-TALK SW	1	4.25			100		10	
			2	5			100		10	
1R	30	ACT PUSH-TO-TALK SW ON CONTROL HANDGRIP	1	4.5				100	10	
			2	3.3				100	10	

			3	4.23			100	10	
			4	10			100	10	
1R	32	MON VHF-2 COMM AUDIO	1	2.5					
			2	6					
			3	6.8					
			4	7					
1R	33	MON VHF-2 COMM AUDIO	1	9					
			2	6.2					
			3	1.7					
			4	3					
1R	34	MON VHF-2 COMM AUDIO	1	9.5					
			2	4.3					
			3	7.5					
			4	4.5					
1R	35	MON VHF-2 COMM AUDIO	1	8					
			2	10					
			3	30					
			4	16.					1R
1R	36	COMM VIA VHF-2	1	4.8					
			2	2.5					
			3	1.5					
			4	1.7					
1R	37	COMM VIA VHF-2	1	2.3					
			2	3.1					
			3	4.4					
			4	3					
1R	38	COMM VIA VHF-2	1	6					
			2	4.2					
			3	5					
			4	2.7					
1R	39	COMM VIA VHF-2	1	7.5					
			2	3.1					
			3	4.5					
			4	3.3					
1R	40	COMM VIA VHF-2	1	4					
			2	4.25					
			3	10				5	
			4	5.5				5	
1R	41	COMM VIA VHF-2R	1	6.8				10	
			2	11.				10	
1R	42	ACT PUSH-TO-TALK SW ON CONTROL HANDGRIP	1	11.			100	10	
								10	
1S	01	MON VHF-3L FREQ IND	1	.77	100			10	
			2	5.00	90			10	
			3	5.06	90			10	
1S	02	SET VHF-3L FREQ-WHOLE NUMBERS	1	3.03	10		100	10	
			2	3.09	10	100		10	
1S	03	SET VHF-3L FREQ-FRACTIONS	1	1.97	10		100	10	
			2	1.97	10	100		10	
1S	04	ADJ VHF-3L VOLUME	1	1.97	10		100	10	
			2	3.03	50		100	10	
			3	1.97	0	100		10	
			4	3.03	50	100		10	
1S	05	SET VHF-3 COMM TFR SW TO LEFT	1	1.45	50		100	10	
			2	1.45	50	100		10	AC
1S	06	SET VHF-3 COMM TFR SW TO RIGHT	1	1.45	50		100	10	
			2	1.45	50	100		10	
1S	07	MON VHF-3R FREQ IND	1	.77	100			10	
			2	5.01	90			10	
			3	5.05	90			10	

1S	08		1	2.05	10		100	10		
		SET VHF-3R FREQ	2	3.04	10		100	10		
		WHOLE NO.S	3	2.05	10	100		10		
			4	3.08	10	100		10		
1S	09	SET VHF-3R FREQ-	1	1.97	10		100	10		
		FRACTIONS	2	1.97	10	100		10		
		FRACTIONS	2	1.97		100		10		AC
1S	10	ADJ VHF-3R VOLUME	1	2.05	50		100	10		
			2	3.04	50		100	10		
			3	2.05	50	100		10		
			4	3.08	50	100		10		
1S	11	SET COMM 3 MIC SEL	1	2.97	100		100	10		A
		SW TO VHF-1	2	2.93	100	100		10		AC
1S	12	ACT COMM 3 PUSH-TO-	1	1.41	50		100	10		A
		TALK SW	2	1.42	50	100		10		AC
1T	01	SET LOUDSPEAKER TO	1	2.39	100	100		10		CP4
		ON	2	2.39	100		100	10		P
1T	02	SET LOUDSPEAKER TO	1	2.39	100	100		10		
		OFF	2	2.39	100		100	10		
1T	03	ADJUST LOUDSPEAKER	1	2.11	100	100		10		
		VOLUME	2	2.11	100		100	10		P
			3	3.04	100	100		10		
			4	3.04	100		100	10		P
2H	01	PRESS ATT CWS MODE	1	1.35	20		100	10		A
		SW	2	1.44	20		100	10		A
			3	1.44	20	100		10		
2H	02	MON ATT CWS MODE	1	1.05	80			10		A
		LT GREEN - ATT CWS						10		
		ENGAGED						10		
2H	03	MON ATT CWS MODE	1	1.05	80			10		
		LT DARK - ATT CWS						10		
		DISENGAGED						10		
2H	04	PRESS VEL CWS MODE	1	2.09	20		100	10		A
		SW	2	1.35	20		100	10		A
2H	05	MON VEL CWS MODE LT	1	1.34	80			10		A
		GREEN - VEL CWS ENG						10		
2H	06	MON VEL CWS MODE LT	1	1.34	80			10		
		DARK - VEL CWS DIS-						10		
		ENGAGED						10		
2H	07	PRESS AUTO MODE SW	1	1.42	20		100	10		A
2H	08	MON AUTO MODE LT	1	1.34	80			10		
		GREEN - AUTO MODE						10		
		ENGAGED						10		
2H	09	MON AUTO MODE LT	1	1.34	80			10		
		DARK - AUTO MODE						10		
		DISENGAGED						10		
2H	10	PRESS LAND MODE SW	1	2.13	20		100	10		A
			2	2.13	20	100		10		
2H	11	MON LAND MODE LT	1	1.05	80			10		
		GREEN - LAND MODE						10		
		ENGAGED						10		
2H	12	MON LAND MODE LT	1	1.05	80			10		
		ORANGE - LAND MODE						10		
		ARMED						10		
2H	13	MON LAND MODE LT	1	1.05	80			10		
		DARK - LAND MODE						10		
		DISENGAGED						10		
2H	14	PRESS TKA SEL MODE	1	1.41	20		80	10		P
		SW						10		
2H	15	MON TKA SEL MODE LT	1	.77	80			10		AP

		GREEN - TKA SEL MODE ENGAGED	2	.78	40		10 10	
2H	16	MON TKA SEL MODE LT ORANGE - TKA SEL MODE ARMED	1	.77	80		10 10 10	
2H	17	MON TKA SEL MODE LT BLUE - TKA SEL MODE PRESELECTED	1	.77	80		10 10 10	
2H	18	MON TKA SEL MODE LT DARK - TKA SEL MODE DISENGAGED	1	.77	80		10 10 10	
2H	19	ROTATE TKA SEL KNOB	1	2.50	10		10	P
2H	20	READ TKA SEL VALUE ON DIGITAL INDIC	1	1.11	20		10 10	A
2H	21	PRESS FPA SEL MODE SW	1	1.40	20	100	10 10	AP
2H	22	MONITOR FPA SEL MODE LT GREEN - FPA SEL MODE ENGAGED	1	.77	80		10 10 10	AP
2H	23	MONITOR FPA SEL MODE LT ORANGE - FPA SEL MODE ARMED	1	.77	80		10 10 10	
2H	24	MONITOR FPA SEL MODE LT BLUE - FPA SEL MODE PRESELECTED	1	.77	80		10 10 10	
2H	25	MONITOR FPA SEL MODE LT DARK - FPA SEL MODE DISENGAGED	1	.77	80		10 10 10	
2H	26	ROTATE FPA SEL KNOB	1	2.45	20	100	10	AP
2H	27	READ FPA SEL VALUE ON DIGITAL INDIC	1	1.08	20		10 10	AP
2H	28	PRESS ALT ENG MODE SW	1	1.42	20	10	10 10	AP
2H	29	MONITOR ALT ENG MODE LT GREEN - ALT ENG MODE ENGAGED	1	.78	20		10 10 10	AP
2H	30	MON ALT ENG MODE LT ORANGE - ALT ENG MODE ARMED	1	.78	20		10 10 10	
2H	31	MON ALT ENG MODE LT BLUE - ALT ENG MODE PRESELECTED	1	.78	20		10 10 10	
2H	32	MON ALT ENG MODE LT DARK - ALT ENG MODE DISENGAGED	1	.78	20		10 10 10	
2H	33	ROTATE ALT ENG KNOB	1	2.47	20	100	10	AP
2H	34	READ ALT ENG VALUE ON DIGITAL INDIC	1	1.06	80		10 10	A
2H	35	PRESS HOR PATH MODE SW	1 2 3	1.37 2.15 1.72	20 20 20	100 100 100	10 10 10	A A A
2H	36	MON HOR PATH MODE LT GREEN - HOR PATH MODE ENGAGED	1 2	.78 .78	80 50		10 10 10	
2H	37	MON HOR PATH MODE LT ORANGE - HOR PATH MODE ARMED	1	.78	80		10 10 10	
2H	38	MON HOR PATH MODE LT DARK - HOR PATH MODE DISENGAGED	1 2	.78 .78	80 40		10 10 10	

2H	39	PRESS VERT PATH MODE SW	1	1.36	20	100	10 10	A
2H	40	MON VERT PATH MODE L GREEN - VERT PATH MODE ENGAGED	1	.78	80		10 10 10	
2H	41	MON VERT PATH MODE L ORANGE - VERT PATH MODE ARMED	1	.78	80		10 10 10	
2H	42	MON VERT PATH MODE LT DARK - VERT PATH MODE DISENGAGED	1	.78	80		10 10 10	
2H	43	PRESS CAS ENG MODE SW	1	.78	20	100	10 10	
2H	44	MON CAS ENG MODE LT GREEN - CAS MODE ENGAGED	1	.78	80		10 10 10	A
2H	45	MON CAS ENG MODE LT BLUE - CAS ENG MODE PRESELECTED	1	.78	80		10 10 10	
2H	46	MON CAS ENG MODE LT DARK - CAS ENG MODE DISENGAGED	1	.78	80		10 10 10	
2H	47	ROTATE CAS ENG KNOB	1	2.45	20		10	A
2H	48	READ CAS ENG VALUE ON DIGITAL INDIC	1	1.04	100		10 10	A
2H	49	PRESS TIME PATH MODE SW	1	1.35	20	80	10 10	A
2H	50	MON TIME PATH MODE LT GREEN - TIME PATH MODE ENGAGED	1	.78	80		10 10 10	
2H	51	MON TIME PATH MODE SW DARK - TIME PATH MODE DISENGAGED	1	.78	80		10 10 10	
2H	52	ACT LEFT AGCS LIGHTS TEST SW	1	2	20	100	10 10	
2H	53	MON AGCS PANEL LTS TEST	1	2	100		10 10	
2H	54	ACT RIGHT AGCS LIGHTS TEST SW	1	2	20	100	10 10	
2J	01	MON ROLL ATT INDIC	1 2 3 4	2.02 10 30 180	100 5 5 5		10 5 5 5	P
2J	02	MON PITCH ATTITUDE INDIC	1 2 3 4	1.12 10 30 180	100 10 10 10		10 10 10 10	P
2J	03	MONITOR ALTITUDE DIGITAL CALLOUT	1	.78	100		10 10	P
2J	04	MON FLT PATH ACCEL INDIC	1 2 3 4	2.19 10 30 60	100 5 5 5		10 5 5 5	P
2J	05	MON FLT PATH ANGLE INDIC	1 2 3 4	2.19 10 30 120	100 20 20 20		10 15 15 15	
2J	06	MON PITCH FLT DIREC	1	2.19	100		10	
2J	07	MON ROLL FLT DIREC	1	2.19	100		10	
2J	08	MON ACCEL COMMAND	1	2.19	100		10	

2J	09	MON FLT PATH ANGLE INDIC	1	2.19	100		10		
			2	60	20		15		
			3	26	40		40		
2J	10	MON FLT PATH COMMAND TO NEXT WPT	1	2.19	100		10		
							10		
2J	11	MON FLT PATH COMMAND TO DESTINATION IN 30 SECONDS	1	2.19	100		10		
							10		
							10		
2J	12	MON WAYPOINT IDENTS	1	2.19	100		10		
2J	13	MON ILS BOX INDIC	1	2.19	100		10		
			2	10	5		5		
			3	30	5		5		
			4	60	5		5		
2J	14	MON ILS CROSS INDIC	1	2.19	100		10		
			2	10	5		25		
			3	30	5		25		
			4	60	5		25		
2J	15	MON TV VIDEO	1	2.19	100		10		
			2	30	10		10		
2J	16	ACT EADI AUTO SW	1	2.13	100	100	10		AP
			2	2.35	100	100	10		P
2J	17	SEL MAN EADI PITCH REF MODE/MON SW LT ON					10		
							10		
							10		
2J	18	ROTATE PITCH REF KNOB TO SELECT PITCH	1	2.05	100	100	10		AP
							10		
							10		
2J	19	MON PITCH REF INDIC	1	1.12	100		10		AP
			2	10	5		5		
			3	30	5		5		
			4	180	5		5		
2J	20	ROTATE DH KNOB TO SELECT DH VALUE	1	1.11	10	100	10		AP
			2	2.44	10	100	10		
2J	21	MON DH INDIC	1	1.11	90		10		
			2	2.44	90		10		
2J	22	MON FLASHING CENTER DOT ON EADI	1	2.27	100		10		
			2	30	10		10		
2J	23	ACTUATE DH TEST SW	1	2.27	100	100	10		
2J	24	MON 100 FT INDIC ON EADI	1	2.27	100		10		
			2	3	10		10		
2J	25	SELECT LAND MODE	1	2.67	100	100	10		AP
			2	2.67	100	100	10		
2J	26	SELECT CRUISE MODE	1	2.67	100	100	10		
			2	1.35	100	100	10		
2J	27	SELECT TEST MODE	1	2.67	100	100	10		
2J	28	MON EADI TEST PAT	1	2.67	100		10		
2J	29	SELECT SPD ERR OPTIO	1	1.35	100	100	10		
			2	2.15	100	100	10		
2J	30	MON SPD ERR BAR	1	10	5		5		
			2	30	5		5		
			3	60	5		5		
			4		5		5		
2J	31	SEL ILS OPTION	1	1.35	100	100	10		
			2	2.15	100	100	10		
			3	2.15	100	100	10		
2J	32	SEL TV OPTION	1	2.15	100	100	10		AP
			2	1.35	100	100	10		
2J	33	SEL FPT DIR OPTION	1	2.15	100	100	10		
			2	1.35	100	100	10		
2J	34	SELECT V-NAV OPTION	1	1.32	100	100	10		AP

			2	2.15	100	100	10	
2J	35	SELECT RUNWAY OPTION	1	1.36	100	100	10	AP
			2	2.15	100	100	10	
2J	36	ADJ EADI BRIGHTNESS	1	2	100	100	10	
2J	37	ADJ EADI CONTRAST	1	2	100	100	10	
2J	38	MONITOR LOCALIZER	1	5	20		20	
		INDICATOR	2	10	10		10	
			3	30	10		10	
			4	60	10		10	
2J	39	MON GLIDE SLOPE	1	5	10		10	
		ATT INDIC	2	10	10		10	
			3	30	10		10	
			4	60	10		10	
2J	40	MON EADI RNWY	1	10	5		5	
			2	30	5		5	
			3	60	5		5	
			4	180	5		5	
2J	41	MON EADI DRIFT INDIC	1	10	5		5	
			2	30	5		5	
			3	60	5		5	
			4	180	5		5	
2J	42	MON EADI	1	5	25		30	
			2	10	25		30	
			3	30	25		30	
			4	60	25		30	
2J	43	MON EADI	1	90	25		30	
			2	120	25		30	
			3	15	25		30	
			4	20	25		30	
2J	44	MON EADI RNWY	1	26	25		15	
2J	45	MON EADI RADAR ALT	1	26	10		10	
2K	01	SEL TRACK UP OPTION	1	2.64	100	100	10	AP
			2	1.97	100	100	10	
			3	2.00	100	100	10	AC
			4	2.67	100	100	10	AC
2K	02	SEL NORTH UP OPTION	1	2.64	100	100	10	
			2	1.97	100	100	10	
			3	2.00	100	100	10	
			4	2.67	100	100	10	
2K	03	SEL TEST OPTION	1	2.64	100	100	10	
			2	1.97	100	100	10	
			3	2.00	100	100	10	
			4	2.67	100	100	10	
2K	04	MON MFD TEST PATT	1	3	100		10	
2K	05	SEL 1 NM MAP SCALE	1	2.65	100	100	10	AP
			2	1.92	100	100	10	AP
			3	1.96	100	100	10	AC
			4	2.68	100	100	10	AC
2K	06	SEL 2 NM MAP SCALE	1	2.65	100	100	10	
			2	1.92	100	100	10	
			3	1.96	100	100	10	
			4	2.68	100	100	10	
2K	07	SEL 4 NM MAP SCALE	1	2.65	100	100	10	
			2	1.92	100	100	10	
			3	1.96	100	100	10	
			4	2.68	100	100	10	
2K	08	SEL 8 NM MAP SCALE	1	2.65	100	100	10	
			2	1.92	100	100	10	
			3	1.96	100	100	10	
			4	2.68	100	100	10	

2K	09	SEL 16 NM MAP SCALE	1	2.65	100	100	10		
			2	1.92	100	100	10		
			3	1.96	100	100	10		
			4	2.68	100	100	10		
2K	10	SEL 32 NM MAP SCALE	1	2.68	100	100	10		AP
			2	1.92	100	100	10		
			3	1.96	100	100	10		
			4	2.68	100	100	10		
2K	11	MON MAP SCALE CALLOU	1	.83	100		10		AP
2K	12	MON 1 NM MAP VIDEO	1	2.27	100		10		AP
2K	13	MON 2 NM MAP VIDEO	1	2.27	100		10		
2K	14	MON EHSI DISPLAY	1	2.27	100		10		
			2	10	25		10		
			3	30	25		10		
			4	180	25		10		
2K	15	MON EHSI DISPLAY	1	2.27	100		10		
			2	60	25		25		
			3	90	25		30		
			4	120	25		30		
2K	16	MON EHSI DISPLAY	1	2.27	100		10		
			2	5	25		30		
			3	15	25		30		
			4	20	25		30		
2K	17	MON EHSI DISPLAY	1	2.2	40		10		
			2	17	50		10		
2K	18	SEL NAV AIDES OPTION	1	2.07	100	100	10		AP
			2	2.13	100	100	10		AC
			3	1.38	100	100	10		
			4	1.38	100	100	10		
2K	19	SEL TERRAINE OPTION	1	1.38	100	100	10		AC
			2	2.07	100	100	10		
			3	1.38	100	100	10		
			4	2.13	100	100	10		
2K	20	SEL AIRPORTS OPTION	1	1.37	100	100	10		
			2	2.07	100	100	10		
			3	1.38	100	100	10		
			4	2.13	100	100	10		
2K	21	SEL WPT ALT OPTION	1	1.46	100	100	10		AP
			2	2.07	100	100	10		
			3	1.38	100	100	10		
			4	2.13	100	100	10		
2K	22	SEL GRP OPTION	1	1.37	100	100	10		AP
			2	1.33	100	100	10		AC
			3	2.07	100	100	10		
			4	2.13	100	100	10		
2K	23	SEL T NAV OPTION	1	2.13	100	100	10		AC
			2	1.38	100	100	10		
			3	2.07	100	100	10		
			4	2.13	100	100	10		
2K	24	SEL ALT RANGE OPTION	1	1.38	100	100	10		
			2	2.07	100	100	10		
			3	2.13	100	100	10		
			4	1.38	100	100	10		
2K	25	SEL TREND VECT OPTION	1	1.38	100	100	10		
			2	2.07	100	100	10		
			3	2.13	100	100	10		
			4	1.38	100	100	10		
2K	26	MON NV AIDES SYMBOLS					10		
2K	27	MON TERRAINE SYMBOLS					10		
2K	28	MON AIRPORT SYMBOLS					10		

2K	29	MON WAYPOINT ALT WITH NAV AIDES SYM						10	
2K	30	MON GEO REF PT SYM						10	
2K	31	MON TIME BOX AND FUTURE PTS SYMBOLS	1	.001	100			10	
2K	32	MON ALT/RNG SYMBOLS	1	2	50			10	
			2	10	10			10	
			3	30	10			10	
			4	60	10			10	
2K	33	MON CURVED TREND VECTOR SYMBOLS	1	10	10			20	
			2	30	10			20	
			3	180	10			20	
			4	60	10			20	
2K	34	DESELECT NAV AIDES OPTION	1	1.38	100		100	10	
			2	2.07	100		100	10	
			3	1.38	100	100		10	
			4	2.13	100	100		10	
2K	35	DESELECT TERRAIN OPTION	1	1.38	100		100	10	
			2	2.07	100		100	10	
			3	1.38	100	100		10	
			4	2.13	100	100		10	
2K	36	DESELECT AIRPORTS OPTION	1	1.38	100		100	10	
			2	2.07	100		100	10	
			3	1.38	100	100		10	
			4	2.13	100	100		10	
2K	37	DESELECT WPT ALT OPTION	1	1.38	100		100	10	
			2	2.07	100		100	10	
			3	1.38	100	100		10	
			4	2.13	100	100		10	
2K	38	DESELECT GRP OPTION	1	1.38	100		100	10	
			2	2.07	100		100	10	
			3	1.38	100	100		10	
			4	2.13	100	100		10	
2K	39	DESELECT T NAV OPTION	1	1.38	100		100	10	
			2	2.07	100		100	10	
2K	40	DESELECT ALT RANGE OPTION	1	1.38	100		100	10	
			2	2.07	100		100	10	
			3	1.38	100	100		10	
			4	2.13	100	100		10	
2K	41	DESELECT TREND VEC OPTION	1	1.38	100		100	10	
			2	2.07	100		100	10	
			3	1.38	100	100		10	
			4	2.13	100	100		10	
2K	42	MON HOLDING PATTERN SYMBOL						10	
2K	43	MON ADIZ BDRY SYM						10	
2K	44	MON FIR BDRY SYMBOL						10	
2K	45	MON OFFSET FLT PATH SYMBOLS						10	
2K	46	MON STRAIGHT TREND VECTOR SYMBOL	1	10	10			10	
			2	30	10			10	
			3	180	10			10	
			4	60	5			5	
2K	47	MON TRACK ANGLE SYM	1	10	10			10	
			2	2.2	50			10	
2K	48	MON AGCS MODE INDIC	1	.83	100			10	AP
2K	49	MON GROUND SPEED INC	1	.79	100			10	AP
2K	50	MON NAV MODE INDIC	1	.79	100			10	
2K	51	MON WIND DIREC/VEL INDIC	1	.79	100			10	
								10	

2K	52	MON FTL PATH SYMBOL	1	10	10		10	
2K	53	MON HDG POINTER AND TAPE	1	2.03	100		10	AP
							10	
2K	54	ADJ MFD BRIGHTNESS	1	2	100	100	10	
2K	55	ADJ MFD CONTRAST	1	2	100	100	10	
2K	56	MON MFD FOR ATC SITUATION DISP	1	5	100		10	
			2	10	50		10	
			3	15			10	
			4	30	15		10	
2K	57	MON MFD FOR ATC SITUATION DISP	1	45	10		10	
			2	60	10		10	
			3	90	10		10	
			4	120	10		10	
2K	58	MON MFD FOR ATC SITUATION DISP	1	240	10		10	
			2	360	10		10	
			3	540	10		10	
			4	1140	10		10	
2K	59	MON CURVED TREND VECTOR SYMBOLS	1	5	10		10	
			2	10	10		10	
			3	30	10		10	
			4	60	10		10	
2L	01	RESET T/A/M SEL SW	1	2.67	100	100	10	AP
2L	02	ADJ NCDU DIM CONT	1	2.78	100	100	10	AP1
2L	03	MON NCDU ALERT LT ON	1	2.08	100		10	AP
2L	04	MON NCDU ALERT LT	1	2.08	100		10	
2L	05	MON NCDU FAIL LT ON	1	2.08	100		10	
2L	06	MON NCDL FAIL LT OFF	1	2.08	100		10	
2L	07	MON INITILIZE MODE DATA	1	2.34	100		10	AP
			2	2.00	100		10	AP
			3	4	100		10	
2L	08	MON ATC CLR MODE DATA	1	2.34	100		10	
			2	2.08	100		10	AP
2L	09	MON FLT PLN 1 MODE DATA	1	2.34	100		10	
			2	2.08	100		10	AP
2L	10	MON FLT PLN 2 MODE DATA	1	2.34	100		10	
			2	2.08	100		10	
2L	11	MON NAV DATA 1 MODE DATA	1	2.34	100		10	
			2	2.06	100		10	
2L	12	MON NAV DATA 2 MODE DATA	1	2.34	100		10	
			2	2.06	100		10	
2L	13	MON NAV DATA 3 MODE DATA	1	2.34	100		10	
			2	2.06	100		10	
2L	14	MON SEL 1 MODE DATA	1	2.34	100		10	
			2	2.08	100		10	AP
2L	15	MON SEL 2 MODE DATA	1	2.34	100		10	
			2	2.08	100		10	
2L	16	MON LOOK UP 1 STATUS DATA	1	2.34	100		10	
			2	2.08	100		10	AP
			3	7	100		10	
2L	17	MON LOOK-UP 2 ROUTE DATA	1	2.34	100		10	
			2	2.08	100		10	
2L	18	MON LOOK-UP 3 AIRPRT DATA	1	2.34	100		10	
			2	2.08	100		10	
2L	19	MON LINE 8 MESSAGE	1	2.34	100		10	
			2	2.06	100		10	
2L	20	PRESS ENT KEY	1	1.47	100	100	10	AP
			2	1.51	100	100	10	AP
			3	1.35	100	100	10	
2L	21	PRESS EXEC KEY	1	1.42	100	100	10	AP
			2	1.46	100	100	10	AP

			3	1.35	100	100	10	
			4	1.52	100	100	10	AP1
2L	22	PRESS REJ KEY	1	1.53	100	100	10	AP
			2	1.35	100	100	10	
2L	23	PRESS CLR KEY	1	1.53	100	100	10	
			2	1.35	100	100	10	
2L	24	PRESS UP KEY	1	1.50	100	100	10	AP
			2	1.32	100	100	10	
2L	25	PRESS DOWN KEY	1	1.50	100	100	10	AP
			2	1.32	100	100	10	AP
2L	26	PRESS NO.1 KEY	1	1.45	100	100	10	AP
			2	1.41	100	100	10	AP
			3	1.35	100	100	10	
2L	27	PRESS NO.2 KEY	1	1.35	100	100	10	AP
			2	1.48	100	100	10	
2L	28	PRESS NO.3 KEY	1	1.35	100	100	10	AP
			2	1.46	100	100	10	AP
2L	29	PRESS NO.4 KEY	1	1.35	100	100	10	AP
			2	1.46	100	100	10	
2L	30	PRESS NO.5 KEY	1	1.35	100	100	10	
			2	1.46	100	100	10	
2L	31	PRESS NO.6 KEY	1	1.35	100	100	10	AP
			2	1.44	100	100	10	AP
2L	32	PRESS NO.7 KEY	1	1.35	100	100	10	AP
			2	1.46	100	100	10	
2L	33	PRESS NO.8 KEY	1	1.44	100	100	10	AP
			2	1.35	100	100	10	
2L	34	PRESS NO.9 KEY	1	1.35	100	100	10	
			2	1.46	100	100	10	
2L	35	PRESS NO.0 KEY	1	1.35	100	100	10	
			2	1.46	100	100	10	
2L	36	PRESS (DECIMAL PT) KEY	1	1.35	100	100	10	
			2	1.46	100	100	10	
2L	37	PRESS A/WPT KEY	1	1.35	100	100	10	
			2	1.46	100	100	10	
2L	38	PRESS B/AWY KEY	1	1.35	100	100	10	
			2	1.46	100	100	10	
2L	39	PRESS C KEY	1	1.38	100	100	10	AP
			2	1.46	100	100	10	
2L	40	PRESS D KEY	1	1.35	100	100	10	AP
			2	1.32	100	100	10	AP
			3	1.46	100	100	10	
2L	41	PRESS E KEY	1	1.35	100	100	10	
			2	1.46	100	100	10	
2L	42	PRESS F/F-L KEY	1	1.35	100	100	10	
			2	1.46	100	100	10	
2L	43	PRESS G/ALT KEY	1	1.35	100	100	10	
			2	1.46	100	100	10	
2L	44	PRESS H/RTE KEY	1	1.48	100	100	10	AP
			2	1.35	100	100	10	
2L	45	PRESS I/RWY KEY	1	1.45	100	100	10	AP
			2	1.35	100	100	10	
2L	46	PRESS J KEY	1	1.35	100	100	10	
			2	1.46	100	100	10	
2L	47	PRESS K KEY	1	1.35	100	100	10	
			2	1.46	100	100	10	
2L	48	PRESS L KEY	1	1.35	100	100	10	
			2	1.46	100	100	10	
2L	49	PRESS M/GS KEY	1	1.47	100	100	10	AP
			2	1.35	100	100	10	

2L	50	PRESS N KEY	1	1.41	100		100	10	AP
			2	1.35	100		100	10	
2L	51	PRESS O/SID KEY	1	1.35	100		100	10	AP
			2	1.46	100		100	10	
2L	52	PRESS P/STAR KEY	1	1.35	100		100	10	AP
			2	1.46	100		100	10	
2L	53	PRESS Q KEY	1	1.35	100		100	10	
			2	1.46	100		100	10	
2L	54	PRESS R KEY	1	1.35	100		100	10	
			2	1.46	100		100	10	
2L	55	PRESS S KEY	1	1.35	100		100	10	
			2	1.46	100		100	10	
2L	56	PRESS T/PTA KEY	1	1.35	100		100	10	
			2	1.46	100		100	10	
2L	57	PRESS U KEY	1	1.36	100		100	10	AP
			2	1.46	100		100	10	
2L	58	PRESS V KEY	1	1.35	100		100	10	
			2	1.46	100		100	10	
2L	59	PRESS W KEY	1	1.35	100		100	10	
			2	1.46	100		100	10	
2L	60	PRESS X KEY	1	1.35	100		100	10	
			2	1.46	100		100	10	
2L	61	PRESS Y KEY	1	1.35	100		100	10	
			2	1.46	100		100	10	
2L	62	PRESS Z KEY	1	1.35	100		100	10	
			2	1.46	100		100	10	
2L	63	PRESS INIT KEY	1	1.48	100		100	10	AP
			2	1.35	100		100	10	
2L	64	PRESS ATC CLR KEY	1	2.03	100		100	10	AP
			2	1.35	100		100	10	
			3	1.46	100		100	10	
2L	65	PRESS FLT PLN KEY	1	2.03	100		100	10	AP
			2	1.40	100		100	10	AP
			3	1.35	100		100	10	
2L	66	PRESS NAV DATA KEY	1	2.03	100		100	10	
			2	1.46	100		100	10	
			3	1.35	100		100	10	
2L	67	PRESS SEL KEY	1	2.03	100		100	10	AP
			2	1.39	100		100	10	AP
			3	1.46	100		100	10	
2L	68	PRESS LOOK-UP KEY	1	2.03	100		100	10	AP
			2	1.39	100		100	10	AP
			3	1.46	100		100	10	
2L	69	MON NCDU TEST FORMAT	1	5	100			10	
3A	01	MONITOR IDICATED AIRSPEED INDIC	1	.6	100			10	
			2	2.05	80			10	
			3	2.37	80			10	
			4	2.11	80			10	CP
3A	02	SET V1 BUG	1	2.57	20	100		10	P
			2	5.00	20	100		10	
			3	2.57	20		100	10	
3A	03	MON IAS POINTER PASSING V1 BUG	1	.2	100			10	
			2	2.05	100			10	
			3	2.37	100			10	
			4	2.11	100			10	
3A	04	MON V1 BUG SETTING	1	2.57	80			10	
			2	5.00	80			10	
3A	05	SET V-REF BUG	1	5.00	20	100		10	
			2	2.57	20	100		10	
			3	2.57	20		100	10	

3A	06	MON IAS POINTER PASSING V-REF BUG	1	.2	100			10		
			2	2.05	100			10		
			3	2.37	100			10		
			4	2.11	100			10		
3A	07	MON V-REF BUG SETTING	1	5	80			10		
			2	2.57	80			10		
			3	2.37	80			10		
3A	08	MON IAS POINTER OVERLAPPING V-MO INDIC	1	.2	100			10		
			2	2.05	100			10		
			3	2.37	100			10		
			4	2.11	100			10		
3A	09	MON IAS 80 KNOTS	1	2.05	100			10		
			2	2.11	100			10		
			3	2.37	100			10		
3A	10	MONITOR AIRSPEED INDIC	1	10	10			10		
			2	5	10			10		
			3	30	10			10		
			4	60	10			10		
3A	11	MONITOR AIRSPEED INDIC	1	300	10			10		
			2	120	10			10		3A
			3	90	10			10		
			4	20	10			10		
3A	12	F.O. CHECK CAPTIS V-REF BUG SETTING	1	3.	100			10		
								10		
3A	13	CAPT CHECK F.O.3S V-REF BUG SETTING	1	3.	100			10		
								10		
3A	14	MON AIRSPEED INDIC	1	285	10			10		
			2	180	10			10		
			3	15	10			10		
			4	20	10			10		
3F	01	MON MACH NO INDIC	1	2	100			10		
			2	2.05	100			10		
			3	2.37	10			10		
			4	2.11	100			10		
3F	02	MON MACH AIRSPEED WARNING CLACKER	1	2.00				10	100	
								10		
3F	03	ACTUATE MACH AIRSPD TEST SW	1	2.69	100	100		10		CP
			2	2.69	100		100	10		
3H	01	SET ALTIMETER SW TO ON	1	2.10	100	100		10		
			2	2.10	100		100	10		
3H	02	MON CORR BARO ALT INDIC	1	.6	100			10		
			2	2.05	100			10		
			3	2.13	100			10		
			4	2.37	100			10		
3H	03	SET ALTIMETER BARO SETTING CONTROL	1	5.00	10	100		10		
			2	2.65	10		100	10		
			3	2.65	10	100		10		
			4	5.00	10		100	10		
3H	04	MONITOR ALTIMETER BARO SETTING INDIC	1	.77	90			10		
			2	2.37	90			10		
			3	2.65	90			10		
			4	5.00	90			10		
3H	05	F.O. CHECK CAPT3S ALTIMETER BARO SET AND INDICATED ALTI-TUDE	1	3.00	100			10		
								10		
								10		
3H	06	MON ALTIMETER	1	7	50			10		
			2	10	10			10		
			3	30	10			10		
			4	60	10			10		

3H	07	MON ALTIMETER	1	5	10			10		
3J	01	MON RADIO ALT	1	2	100			10		P
		ALTITUDE INDIC	2	2.23	100			10		CP
3J	02	MON RADIO ALTIMETER	1	2.15	100			10		
		WARNING FLAG IN VIEW	2	2.23	100			10		
3J	03	MON RADIO ALTIMETER	1	2.15	100			10		
		WARNING FLAG OUT OF	2	2.23	100			10		
		VIEW						10		
3J	04	ADJUST RADIO ALTI-	1	2.65	100	100		10		CP
		METER MIN DECISION	2	2.68	100		100	10		P
		ALT CURSOR CONT						10		
3J	05	MON RADIO ALTIMETER	1	2.15	100			10		
		MIN DECISION ALT	2	2.23	100			10		
		CURSOR						10		
3J	06	ACTUATOR RADIO ALT	1	1.45	100	100		10		CP
		TEST SW	2	2.03	100	100		10		P
			3	1.45	100		100	10		P
			4	2.02	100		100	10		P
3J	07	MON RADIO ALT TEST	1	2.15	100			10		
		ALT INDIC	2	2.23	100			10		
3J	08	MON RADIO ALT MDA	1	2.15	100			10		
		LT ON	2	2.23	100			10		
3J	09	MON RADIO ALT MDA	1	2.15	100			10		
		LT OFF	2	2.23	100			10		
3K	01	SET NEW ALTITUDE ON	1	5	10	100		10		
		ALTITUDE ALERT PNL	2	2.72	10		100	10		P
3K	02	MON ALT ALERT ALT	1	.76	90			10		P
		INDIC	2	2.72	90			10		
			3	5.00	90			10		
3K	03	SET ALT ALERT BARO	1	2.72	10	100		10		
			2	5.00	10	100		10		
3K	04	MON ALT ALERT BARO	1	.76	90			10		
		SET INDIC	2	2.72	90			10		
			3	5.00	90			10		
3K	05	MON ALT ALERT LT ON	1	2.16	100			10		AC
3K	06	MON ALT ALERT LT OFF	1	2.16	100			10		
3K	07	MON ALT ALERT ALARM	1					10	100	
3L	01	MON VERTICAL SPEED	1	2.12	100			10		
		INDIC	2	2.03	100			10		
			3	2.31	100			10		
			4	2.24	100			10		CP
3L	02	MON VERTICAL SPEED	1	10	10			10		
		INDIC	2	5	10			10		
			3	30	10			10		
			4	60	10			10		
3L	03	MON VERTICAL SPEED	1	300	10			10		
		INDIC	2	120	10			10		
			3	90	10			10		
			4	60	10			10		
3L	04	MON IVSI INDIC	1	285	10			10		
			2	20	10			10		
			3	180	10			10		
			4	15	10			10		
3L	05	MON IVSI	1	.6	100			10		
3N	01	WIND AND SET CLOCK	1	2.50	20		100	10		
			2	2.50	20	100		10		
3N	02	MONITOR CLOCK	1	2.10	80			10		
			2	2.16	80			10		
			3	2.24	80			10		C
			4	2.19	80			10		CP

3N	03	START ELAPSED TIME INDIC	1	2.10	5	50	5	5	
3N	04	RESET ELAPSED TIME INDIC	1	2.10	5	50	5	5	
3P	01	ACTUATE GYRO CAGING SW	1	2.70	100	100	10	10	
3P	02	SET GYRO PITCH TRIM	1	2.22	100	100	10		
3P	03	MON STDBY HORIZON INDIC PWR FAIL FLAG	1	2.22	100		10	10	
3P	04	MON AIRPLANE REF	1	2.22	100		10		
3P	05	MONITOR BANK ANGLE INDIC	1	2.22	100		10	10	
3P	06	MONITOR PITCH ANGLE INDIC	1	2.22	100		10	10	
3R	10	MON PITCH ATTITUDE INDIC ON FDI	1	2.05	100		10	10	
			2	.211	100		10	10	
			3	2.58	100		10	10	
			4	10	10		10	10	
3R	11	MON BANK ATTITUDE INDIC ON FDI	1	2.05	100		10	10	
			2	2.11	100		10	10	
			3	2.58	100		10	10	
3R	12	MON DECISION HGT LT ON FDI	1	2.05	50		10	10	
			2	.211	50		10	10	
			3	2.58	50		10	10	
3R	13	MON DECISION HGT LT OFF ON FDI	1	2.05	50		10	10	
			2	2.11	50		10	10	
			3	2.58	50		10	10	
3R	14	MON COMMAND BAR ATTITUDE INDIC ON FDI	1	2.05	100		10	10	
			2	2.11	100		10	10	
			3	2.58	100		10	10	
3R	15	MON RED FLAG IN VIEW ON FDI	1	2.05	100		10	10	
			2	2.11	100		10	10	
			3	2.53	100		10	10	
3R	16	MONTIOR INDICATION OF DEVIATION FROM LOCALIZER ON FDI	1	2.21	100		10	10	C
			2	3	100		10	10	
			3	10	15		10	10	
			4	240	15		10	10	
3R	17	MON SLIP INDIC ON FDI	1	2.05	100		10	10	
			2	2.11	100		10	10	
			3	2.58	100		10	10	
3R	18	MON FD FLAG OUT OF VIEW ON FDI	1	2.05	100		10	10	
			2	2.11	100		10	10	
			3	2.58	100		10	10	
3R	19	MON RUNWAY FLAG IN VIEW ON FDI	1	2.05	100		10	10	
			2	2.11	100		10	10	
			3	2.58	100		10	10	
3R	20	MON RUNWAY FLAG OUT OF VIEW ON FDI	1	2.05	100		10	10	
			2	2.11	100		10	10	
			3	2.58	100		10	10	
3R	21	MON RATE OF TURN FLAG ON FDI	1	2.05	100		10	10	
			2	2.11	100		10	10	
			3	2.58	100		10	10	
3R	22	MONITOF RUNWAY SYMBOL OUT OF VIEW ON FDI	1	2.05	100		10	10	
			2	2.11	100		10	10	
			3	2.58	100		10	10	
3R	23	MONITOR ATTITUDE RELATIVE TO RUNWAY SYMBOL ON FDI	1	2.05	100		10	10	
			2	2.11	100		10	10	
			3	2.58	100		10	10	
3R	24	ACTUATE FDI PRESS-TO-TEST SW	1	2.01	100	100	10	10	CP
			2	1.81	100	100	10	10	P

3R	25	NON FDI TEST INDIC	1	2.05	100			10		
			2	2.11	100			10		
			3	2.58	100			10		
3R	26	MON GLIDE SLOPE	1	2.05	100			10		
		FLAG OUT OF VIEW ON	2	2.11	100			10		
		FDI	3	2.58	100			10		
3R	27	MON GLIDE SLOPE FLAG	1	2.05	100			10		
		IN VIEW ON ADI	2	2.11	100			10		
			3	2.58	100			10		
3R	28	MON GYRO FLAG IN	1	2.05	100			10		
		VIEW ON FDI	2	2.11	100			10		
			3	2.58	100			10		
3R	29	MON GYRO FLAG OUT OF	1	2.05	100			10		
		VIEW ON FDI	2	2.11	100			10		
			3	2.58	100			10		
3R	30	MON GLIDE SLOPE	1	2.05	100			10		
		ATTITUDE INDIC ON	2	2.11	100			10		
		FDI	3	2.58	100			10		
3R	31	MON A/C ATTITUDE	1	2.58	100			10		
		ON FDI	2	2.05	100			10		
			3	2.11	100			10		
			4	10	10			10		
3R	32	SET PITCH TRIM CONT	1	2.71	100		100	10		CP
		ON FDI						10		
3R	33	MON RADIO ALT INDIC	1	2.05	100			10		
		ON FDI	2	2.11	100			10		
			3	2.58	100			10		
3R	34	MON RATE OF TURN	1	2.05	100			10		
		INDIC ON FDI	2	2.11	100			10		
			3	2.58	100			10		
3R	35	MON SPEED POINTER	1	2.05	100			10		
		AND COMMAND INDIC	2	2.11	100			10		
			3	2.58	100			10		
3R	40	MON FD VERT SPD TAPE	1	2.01	100			10		P
3R	41	SET FD PITCH MODE	1	2.92	100		100	10		P
		SEL TO ALT HOLD						10		
3R	42	SET FD PITCH MODE	1	2.92	100		100	10		P
		SEL TO VERT SPEED						10		
		MODE AND ADJUST VERT						10		
		SPEED						10		
3R	43	SET FD MODE SEL TO	1	2.01	100		100	10		
		OFF						10		
3R	44	SET FD MODE SEL TO	1	2.01	100		100	10		
		HDG						10		
3R	45	SET FD MODE SEL TO	1	2.01	100		100	10		
		RAD						10		
3R	46	SET FD MODE SEL TO	1	2.01	100		100	10		
		BB						10		
3R	47	CHECK THAT F.D. MODE	1	1.01	100			10		P
		SEL SW SET TO OFF						10		
3R	48	CHECK THAT F.D.	1	2.25	100			10		CP
		PITCH CONT SET TO	2	.98	100			10		P
		FULL CLOCKWISE						10		
3R	49	SET VHF/NAV SW TO	1	2.53	100		100	10		P
		NORMAL						10		
3R	50	SET VHF/NAV SW TO	1	2.53	100		100	10		
		NO.1						10		
3R	51	SET VHF/NAV SW TO	1	2.53	100		100	10		
		NO.2						10		
3R	52	SET VERT GYRO SEL SW	1	1.46	100	100		10		P

		TO NO.1	2	2.15	100	100	10	P
3R	53	SET VERT GYRO SEL SW	1	1.46	100	100	10	
		TO NO.2	2	2.15	100	100	10	
3R	54	SET COMPUTER SEL SW	1	1.85	100	100	10	P
		TO NO.1	2	2.14	100	100	10	P
			3	2.55	100	100	10	P
3R	55	SET COMPUTER SEL SW	1	1.85	100	100	10	
		TO NO.2	2	2.14	100	100	10	
			3	2.55	100	100	10	
3R	56	MON PITCH ATTITUDE	1	5	10		10	
		INDIC ON FDI	2	30	10		10	
			3	60	10		10	3R
			4	90	10		10	
3R	57	MON PITCH ATTITUDE	1	120	10		10	
		INDIC ON FDI	2	285	10		10	
			3	20	10		10	
3R	58	MON A/C ATTITUDE	1	10	10		10	
		RELATIVE TO ROLL	2	285	10		10	
		COMMAND ON					10	3R
		FDI					10	
3R	59	MON INITIAL MOVEMENT	1	2.58	50		10	
		OF ROLL COMMAND					10	
		BAR ON FDI					10	
3R	60	MON INITIAL MOVEMENT	1	2.58	50		10	
		OF GLIDE SLOPE					10	
		COMMAND BAR ON FDI					10	
3R	61	MON INDICATION OF	1	180	50		10	
		DEVIATION FROM	2	5	50		10	
		LOCALIZE AND GLIDE					10	
		SLOPE ON FDI						
3R	62	MONITOR LOCALIZER	1	5	20		20	
		INDICATOR ON FDI	2	10	20		20	
			3	30	20		20	
			4	60	20		20	
3R	63	MON GLIDE SLOPE	1	5	20		20	
		ATT INDIC ON FDI	2	10	20		20	
			3	30	20		20	
			4	60	20		20	
3R	64	MON COMMAND BAR	1	5	20		10	
		ATTITUDE INDIC ON	2	10	20		10	
		FDI	3	30	20		10	
			4	60	20		10	
3R	65	MON COMMAND BAR	1	90	20		10	
		ATTITUDE INDIC ON	2	120	20		10	
		FDI	3	300	20		10	
			4		20		10	
3S	01	MONITOR A/C HEADING	1	2.23	100		10	
		RELATIVE TO SELECTED	2	10	10		10	
		HDG ON CI	3	5	10		10	
			4	30	10		10	
3S	02	MON COMPASS FLAG	1	2.23	100		10	
		IN VIEW ON CI	2	.78	100		10	
3S	03	MON COMPASS FLAG OUT	1	2.23	100		10	
		OF VIEW ON CI	2	.78	100		10	
3S	04	MON A/C POSITION	1	2.10	100		10	
		RELATIVE TO SELECTED	2	5.00	100		10	
		COURSE ON CI	3	10	10		10	
			4	240	10		10	
3S	05	MON COURSE PNTR IND	1	2.10	100		10	
		ON CI	2	2.23	100		10	

3S	06	MON L-C WARNING FLAG IN VIEW ON CI	1	2.23	100			10			
			2	.78	100			10			
3S	07	MON L-C WARNING FLAG OUT OF VIEW ON CI	1	2.23	100			10			
			2	.78	100			10			
3S	08	MON COURSE DIGITAL INDIC ON CI	1	2.23	90			10			
			2	.78	90			10			
3S	09	MON GLIDE SLOPE FLAG IN VIEW ON CI	1	2.23	100			10			
			2	.78	100			10			
3S	10	MON GLIDE SLOPE FLAG OUT OF VIEW ON CI	1	2.23	100			10			
			2	.78	100			10			
3S	11	SET COURSE DIGITS AND POINTER ON CI USING COURSE CURSOR CONT	1	4.92	10		100	10			
			2	2.87	10		100	10			C
			3	2.87	10	100		10			
								10			
3S	12	SET HEADING CURSOR ON CI USING HDG CURSOR CONT	1	5	10		100	10			
			2	4.13	10		100	10			
			3	2.55	10		100	10			
			4	2.14	10		100	10			C
3S	13	MON DEVIATION FROM GLIDE SCOPE ON CI	1	.78	100			10			
			2	2.23	100			10			
3S	14	MON COMPASS HDG IND ON CI	1	.78	100			10			
			2	2.23	100			10			
3S	15	MONITOR A/C HEADING RELATIVE TO SELECTED HEADING ON CI	1	60	10			10			
			2	90	10			10			
			3	120	10			10			
			4	20	10			10			
3S	16	MON INDIC THAT A/C ABEAM OF MARKER AND ON HEADING	1	2.23	10			10			
								10			
								10			
3S	17	MON A/C HEADING RELATIVE TO SELECTED COURSE ON CI	1	30	10			10			
			2	90	10			10			
			3	180	10			10			3S
			4	285	10			10			
3S	18	SET COMPASS SEL SW TO NO.1	1	2.15	100	100		10			
								10			
3S	19	SET COMPASS SEL SW TO NO.2	1	2.15	100	100		10			
								10			
3S	20	MON INDIC OF MARKER FLY OVER ON CI	1	2.23	100			10			
			2	.5	100			10			
3U	01	MON TOTAL AIR TEMP INDIC	1	2.25	100			10			CP
			2	2.29	100			10			CP
			3	1.17	100			10			CP
			4	2.18	100			10			AC
3V	01	MON GO AROUND ANNUN LT ON	1	1.21	100			10			CP
			2	.92	100			10			P
3V	02	MON GO AROUND ANNUN LT OFF	1	1.21	100			10			
			2	.92	100			10			
3V	03	MON ALT HOLD ANNUN LT ON	1	1.21	100			10			
			2	.92	100			10			
3V	04	MON ALT HOLD ANNUN LT OFF	1	1.21	100			10			
			2	.92	100			10			
3V	05	MON VOR LOC ANNUN LT OFF	1	1.21	100			10			
			2	.92	100			10			
3V	06	MON LOC ANNUN LT GREEN	1	1.21	50			10			
			2	.92	100			10			
3V	08	MON GLIDE SLOPE ANNUN LT AMBER	1	1.21	100			10			
			2	.92	100			10			
3V	09	MON GLIDE SLOPE ANNUN LT GREEN	1	1.21	50			10			
			2	.92	50			10			
3V	10	MUN GLIDE SLOPE	1	1.21	100			10			

		ANNUN LT OFF	2	.92	100				10			
3V	11	MONITOR OUTER MARKER	1	1.91	25				10	100		CP
		LT ON AND AUDIBLE	2	.72	25				10			
		SIGNAL							10			
3V	12	MON OUTER MARKER LT	1	1.91	25				10	100		
		OFF AND AUDIBLE SIG	2	.72	25				10			
		SILENT							10			
3V	13	MONITOR MIDDLE	1	1.91	25				10	100		
		MARKER ANNUN LT ON	2	.72	25				10			
		AND AUDIBLE SIGNAL										
3V	14	MON MIDDLE MARKER	1	1.91	25				10	100		
		ANNUN LT OFF AND	2	.72	25				10			
		AUDIBLE SIG SILENT							10			
3V	15	MON AIRWAYS MKR	1	1.91	25				10	100		
		ANNUN LT FLASHING	2	.72	25				10	100		P
		AND INTRMT AUDIBLE							10			
		SIGNAL							10			
3V	16	MON AIRWAYS MKR	1	1.91	100				10	100		
		ANNUN LT ON STEADY	2	.72	100				10	100		
		AND STEADY AUDIBLE							10			
		SIGNAL							10			
3V	17	MON AIRWAYS MKR	1	1.91	100				10	100		
		ANNUN LT OFF AND	2	.72	100				10	100		
		AUDIBLE SIG SILENT							10			
3V	18	SET MARKER SW TO LO	1	2.07	100		100		10			
3V	19	SET MKR SW TO HI	1	2.07	100		100		10			
3V	20	MON WINGS LEVEL LT	1	1.21	100				10			
		ON GREEN	2	.92	100				10			
3V	21	MON WINGS LEVEL LT	1	1.21	100				10			
		OFF	2	.92	100				10			
3V	22	MON BACK BEAM LT ON	1	1.21	100				10			
		GREEN	2	.92	100				10			
3V	23	MON BACK BEAM LT OFF	1	1.21	100				10			
			2	.92	100				10			
3V	24	MON HDG ON GREEN	1	1.21	100				10			
			2	.92	100				10			
3V	25	MON HDG LT OFF	1	1.21	100				10			
			2	.92	100				10			
3V	26	SET NO.2 COMM RECVIR	1	2.43	100	100			10			CP
		MKR SW TO ON	2	1.43	100	100			10			P
3V	27	SET NO.2 COMM RECVIR	1	2.43	100	100			10			
		MKR SW TO OFF	2	1.43	100	100			10			
3V	28	MON FLARE LT ON ANUN	1	1.21	50				10			
		PANEL- GREEN										
3W	01	MON INST COMP POWER	1	2.32	100				10			P
		LT ON							10			
3W	02	MON INST COMP POWER	1	2.32	100				10			
		LT OFF							10			
3W	03	MON INST COMP VERT	1	2.32	100				10			
		GYRO LT ON							10			
3W	04	MON INST COMP VERT	1	2.32	100				10			
		GYRO LT OFF							10			
3W	05	MON INST COMP G/S	1	2.32	100				10			
		LT ON							10			
3W	06	MON INST COMP G/S	1	2.32	100				10			
		LT OFF							10			
3W	07	MON INST COMP LOC	1	2.32	100				10			
		LT ON							10			
3W	08	MON INST COMP LOC	1	2.32	100				10			
		LT OFF							10			

3W	09	MON NAV WARNING LT ON	1	.93	100				10		CP
			2	.68	100				10		P
			3	1.56	100				10		CP
3W	10	MON NAV WARNING LT OFF	1	.93	100				10		
			2	.68	100				10		
			3	1.56	100				10		
3X	01	FOLD STANDBY COMPASS INTO VIEW	1	3.5	100	100			10		
									10		
3X	02	MON STANDBY COMPASS HDG INDIC	1	2.0	100				10		
									10		
3X	03	FOLD STANDBY COMPASS OUT OF VIEW	1	1.5	100	100			10		
									10		
4A	01	SET FLT COUNT SYS A SW TO ON	1	3.33	100	100			10		P
									10		
4A	02	SET FLT CONT SYS A SW TO OFF	7	3.33	100	100			10		
									10		
4A	03	SET FLT CONT SYS A SW TO STDBY RUD	1	3.33	100	100			10		
									10		
4A	04	SET FLT CONT SYS B SW TO ON	1	3.33	100	100			10		
									10		
4A	05	SET FLT CONT SYS B SW TO OFF	1	3.33	100	100			10		
									10		
4A	06	SET FLT CONT SYS B SW TO STDBY RUD	1	3.33	100	100			10		
									10		
4A	07	MON FLT CONT SYS A HYD LO PRESS LT ON	1	.66	100				10		P
			2	1.21	100				10		P
			3	.77	100				10		CP
4A	08	MON FLT CONT SYS A HYD LO PRESS LT OFF	1	.66	100				10		
			2	1.21	100				10		
			3	.77	100				10		
4A	09	SET SPOILER SYS A SW TO ON	1	2.53	100	100			10		P
									10		
4A	10	SET SPOILER SYS A SW TO OFF	1	2.53	100	100			10		
									10		
4A	11	SET SPOILER SYS B SW TO ON	1	2.53	100	100			10		
									10		
4A	12	SET SPOILER SYS B SW TO OFF	1	2.53	100	100			10		
									10		
4A	13	SET YAW DAMPER SW TO ON	1	2.68	100	100			10		P
									10		
4A	14	SET YAW DAMPER SW TO OFF	1	2.68	100	100			10		
									10		
4A	15	MON FLT CONT STDBY HDY LO QTY LT ON	1	1.26	100				10		P
			2	.53	100				10		
4A	16	MON FLT CONT STDBY HYD LO QTY LT OFF	1	1.26	100				10		
			2	.53	100				10		
4A	17	MON FLT CONT STDBY HYD LO PRESS LT ON	1	.53	100				10		P
			2	1.26	100				10		
4A	18	MON FLT CONT STDBY HYD LO PRESS LT OFF	1	.53	100				10		
			2	1.26	100				10		
4A	19	MON FEEL DIFF PRESS LT ON	1	1.05	100				10		P
									10		
4A	20	MON FEEL DIFF PRESS LT OFF	1	1.05	100				10		
									10		
4A	21	ACTUATE CWS FOR ROLL CONT	1	2.0	10	100	100		10		
									10		
4A	22	ACTUATE CWS FOR PITCH CONT	1	2.0	10	100	100		10		
									10		
4A	23	ACTUATE RUDDER PEDAL FOR HEADING/YAW CONT	1	3	10		100	100	10		
			2	20				100	10		4A

4A	24	ACT CWS TO ROTATE FOR LIFTOFF	1	15		100	100			10			
			2	5		100	100			10			
4A	25	MON MASTER CAUTION	1	.56	100					10			P
4A	26	ACTUATE MASTER CAUT RESET SW	1	2.14	100	100				10			
			2	2.14	100		100			10			
4A	27	ACTUATE ANNUN PNL RECALL SW	1	1.93	100	100				10			
			2	2.28	100		100			10			
4A	28	ACT FLT CONTROL TO CHANGE HDG	1	5		100	10			10			
			2	10		100	10			10			
			3	15		100	10			10			
			4	20		100	10			10			
4A	29	ACT FLT CONTROL TO CHANGE ALT	1	5		100	30			10			
			2	10		100	30			10			
			3	15		100	30			10			
			4	20		100	30			10			
4A	30	ACT FLT CONT TO ALIGNA/C WITH ATT INDICATORS	1	5		100	30			10			
			2	10		100	30			10			
			3	15		100	30			10			
			4	240		100	30			10			
4A	31	MANUALLY CONTROL A/C	1	75		50	10			10			
			2	10		50	10			10			
			3	15		50	10			10			
			4	20		50	10			10			
4A	32	MON FLT CONT ANNUN LT ON	1	.56	100					10			
4A	33	MON FLT COUNT ANNUN LT OFF	1	.56	100					10			
4A	34	MON MASTER CAUTION AND CVHD ANNUN LTS ON	1	.56	100					10			
4A	35	MON OVHD ANNUN LT ON	1	.56	100					10			
4A	36	MON OVHD ANNUN LT OFF	1	.56	100					10			
4A	38	MON STALL WARNING STICK SHAKER	1	1.0	100					10	100		
4A	39	SET STALL WARNING SW TO HTR OFF	1	3.23	100		100			10			P
			2	2.16	100		100			10			P
4A	40	SET STALL WARNING SW TO NORMAL	1	3.23	100		100			10			
			2	2.16	100		100			10			
4A	41	SET STALL WARNING SW TO TEST	1	3.23	100		100			10			
			2	2.16	100		100			10			
4A	42	MON STALL WARNING OFF LT ON	1	.55	100					10			P
			2	.32	100					10			P
4A	43	MON STALL WARNING OFF LT OFF	1	.55	100					10			
			2	.32	100					10			
4A	44	SET YAW DAMPER TEST SW TO L	1	2.48	100		100			10			P
4A	45	SET YAW DAMPER TEST SW TO R	1	2.48	100		100			10			
4A	46	ADJUST RUDDER PEDALS FORE AND AFT FOR COMFORT	1	3.0	100	100	100	100	100	10			
4A	48	CHECK FLIGHT CONT SYS A SW SET TO ON	1	2.79	100					10			P
4A	49	CHECK FLIGHT CONT SYS B SW SET TO ON	1	2.02	100					10			P
4A	50	CHECK ALT FLAPS SW SET TO OFF	1	2.04	100					10			P
4A	51	CHECK SPOILER SYS A SW SET TO ON	1	2.04	100					10			P

4A	52	CHECK SPOILER SYS B SW SET TO ON	1	2.02		100			10			P
4A	53	CHECK YAW DAMPER SW SET TO OFF	1	2.02		100			10			P
4A	54	MON YAW DAMPER LT OFF	1	1.21		100			10			P
			2						10			
4A	55	MON YAW DAMPER LT ON	1	1.21		100			10			
4A	56	SET STABILIZER BRAKE	1	1.97		100	100		10			CP
			2	3.16		100		100	10			P
4A	57	RELEASE STAB BRAKE	1	1.97		100	100		10			
			2	3.16		100		100	10			
4A	58	MON YAW DAMPER IND	1	2.01	20	80			10			P
4A	59	MON A/P DISENGAGE LT ON	1	.68		100			10			P
									10			
4A	60	MON ELEV POSITION INDIC	1	2.24		100			10			P
									10			
4A	61	MON STALL WARNING TEST INDIC	1	2.01		100			10			P
									10			
4A	62	MON FLT CONT SYS B HYD LO PRESS LT ON	1	.66		100			10			
			2	1.21		100			10			
4A	63	MON FLT CONT SYS B HYD LO PRESS LT OFF	1	.66		100			10			
			2	1.21		100			10			
4A	64	MANUALLY CONTROL A/C	1	32			80	30	10			
			2	10			50	10	10			
			3	5			50	10	10			
			4	30			50	10	10			
4A	65	MANUALLY CONTROL A/C	1	60			50	10	10			
			2	300			50	10	10			
			3	120			50	10	10			
			4	90			50	10	10			
4A	66	MANUALLY CONTROL A/C TO MAKE RIGHT TURN IN HOLDING PATTERN	1	90			100	10	10			
			2	75			100	10	10			
			3	60			100	10	10			
4A	67	ROLL OUT TO LEVEL CONFIGURATION	1	.001					10			
									10			
4A	68	MANUALLY CONT A/C	1	26			100	30	10			
			2	90			50	10	10			
			3	90			10	100	10			
			4	255			50	10	10			
4A	69	ACT FLT CONT TO ALIGN A/C WITH ATT INDICATORS	1	180			100	30	10			
			2	180			30	100	10			
			3	30			100	30	10			
			4	60			100	30	10			
4A	70	ADJUST PANEL MOUNTED CONTROLLER HEIGHT	1	3		100	100	100	10			
									10			
4A	71	ACT FLT CONTROLS TO CHANGE HDG	1	2			100	30	10			
									10			
4A	72	MANUALLY CONTROL A/C -	1	5			10	50	10			
			2	10			10	50	10			
			3	30			10	50	10			
			4	60			10	50	10			
4A	73	MANUALLY CONTROL A/C - COPILOT	1	90			10	50	10			
			2	120			10	50	10			
			3	240			10	50	10			
			4	300			10	50	10			
4A	74	ACTUATE CONTROLS TO CHANGE HEADING	1	5			10	50	10			
			2	10			10	100	10			
			3	15			10	100	10			
			4	20			10	100	10			
4A	75	CONTROL A/C ON FINAL	1	5			10	100	10			

		APPROACH	2	10		10	100		10	
			3	15		10	100		10	
			4	245		10	100		10	
4A	76	STABILIZE CNTRL COL	1	2.5		100	50		10	
			2	2.5		50	100		10	
4A	77	TRIM STAB MANUALLY	1	2.5			50		10	
			2	2.5		50			10	
4A	78	ACT FLT CONT TO ALIGN A/C WITH ATT INDICATORS FD+CI	1	30		30	100		10	
			2	60		30	100		10	
4A	79	MANUALLY CONTROL A/C THRU FLARE AND TOUCHDOWN	1	26		100	50		10	
4B	01	ACTUATE ENG NO.1 THROTTLE	1	2.34			100		10	
			2	2.82			100		10	
			3	2.44			100		10	
			4	2.51			100		10	
4B	02	ACTUATE ENG NO.2 THROTTLE	1	2.34			100		10	
			2	2.42			100		10	
			3	2.44			100		10	
			4	2.51			100		10	
4B	03	ACTUATE BOTH THROTTLES	1	2.34			100		10	
			2	2.82			50		10	
			3	2.44			100		10	
			4	2.51			100		10	
4B	04	CHECK THAT THRUST LEVERS IN CLOSED POS	1	2.54	100				10	P
									10	
4B	05	ADVANCE THRUST LVRS TO NEAR VERTICAL POS	1	3.15			100		10	P
									10	
4B	06	ADVANCE THRUST LVRS TO TAKEOFF THRUST	1	2.44			100		10	P
									10	
4B	07	MAKE MINOR THRUST ADJUSTMENT	1	2.73		100			10	AP
			2	2.73			100		10	
4B	08	SET THRUST LEVERS TO IDLE	1	2.50			100		10	
			2	2.50		100			10	
4B	09	ACTUATE THROTTLES TO ADJUST AIRSPEED	1	5			5		10	
			2	10			5		10	
			3	15			5		10	
			4	20			5		10	
4B	10	ACTUATE THROTTLES TO ADJUST AIRSPEED	1	30			5		10	
			2	60			5		10	
			3	90			5		10	
			4	120			5		10	
4C	01	SET THRUST REVERSER LEVERS TO ON	1	2.74			100		10	P
			2	21			100		10	
			3	21		100			10	
4C	02	SET THRUST REVERSER LEVERS TO OFF	1	2.76			100		10	P
			2	2.76		100			10	
4C	03	MON ENG NO 1 REVERSER UNLOCKED LT ON	1	.76	100				10	P
			2	.54	100				10	P
4C	04	MON ENG NO 1 REVERSER UNLOCKED LT OFF	1	.55	100				10	P
			2	.76	100				10	4C
4C	05	MON ENG NO 2 REVERSER UNLOCKED LT ON	1	.76	100				10	
			2	.54	100				10	
4C	06	MON ENG NO 2 REVERSER UNLOCKED LT OFF	1	.55	100				10	
			2	.76	100				10	
4C	07	MON REVERSER ISOLATION VALVE LT ON	1	.76	100				10	
									10	
4C	08	MON REVERSER ISOLATION VALVE LT OFF	1	.76	100				10	
									10	

4C	09	MON MASTER CAUTION AND OVRHD ANNUN LTS ON	1	.73	100			10 10 10		
4C	10	PRESS MASTER CAUTION RESET SW	1	2.13	100	100		10		
			2	2.49	100	100		10		
4C	11	MON OVRHD CAUTION LT ON	1	.54	100			10 10		
4C	12	MON OVRHD CAUTION LT OFF	1	.54	100			10 10		
4C	13	PRESS ANNUN PNL RECALL SW	1	2.13	100	100		10		
			2	2.49	100	100		10		
4C	14	SET ENG NO.1 THRUST REVERSER OVERRIDE SW TO NORMAL	1	3.29	100	100		10 10 10		P
4C	15	SET ENG NO.1 THRUST REVERSE OVERRIDE SW TO OVERRIDE	1	3.29	100	100		10 10 10		
4C	16	SET ENG NO.2 THRUST REVERSER OVERRIDE SW TO NORMAL	1	1.91	100	100		10 10 10		P
4C	17	SET ENG NO.2 THRUST REVERSER OVERRIDE SW TO OVERRIDE	1	1.91	100	100		10 10 10		
4C	18	MON THRUST REVERSER ARMED LT ON	1	.53	100			10 10		P
4C	19	MON THRUST REVERSER ARMED LT OFF	1	.53	100			10 10		
4C	20	MON THRUST REVERSER LO PRESS LT ON	1	1.30	100			10 10		P
4C	21	MON THRUST REVERSER LO PRESS LT OFF	1	1.30	100			10 10		
4C	22	MON THRUST REVERSER OVERRIDE SW=S IN NORMAL	1	2.18	100	100		10 10 10		
4C	23	CHECK THAT REV THRST LEVERS SET TO OFF	1	1.20	100			10 10		P
4D	01	SET LNDG GEAR LVR TO UP POSITION	1	3.06	50	100		10		C
			2	3.27	50	100		10		CP
			3	2.53	50	100		10		
4D	02	SET LANDING GEAR LVR TO OFF POSITION	1	3.06	100	100		10		
			2	3.27	100	100		10		
			3	2.53	100	100		10		
4D	03	SET LANDING GEAR LEVER TO DOWN POSITION	1	4	25	100		10		
			2	2.53	25	100		10		C
			3	3.27	25	100		10		
			4	3.06	25	100		10		
4D	04	MONITOR LANDING GEAR LEVER POSITION	1	2.09	100			10 10		P
4D	05	MONITOR NOSE GEAR DOWN AND LOCKED LT ON	1	2.00	100			10		
			2	.54	100			10		
			3	.72	100			10		
4D	06	MONITOR NOSE GEAR DOWN AND LOCKED LT OFF	1	.54	100			10		C
			2	.72	100			10 10		CP
4D	07	MONITOR NOSE GEAR UNLOCKED LT ON	1	.54	100			10		
			2	.72	100			10		
4D	08	MON NOSE GEAR UNLOCKED LT OFF	1	.54	100			10		
			2	.72	100			10		
4D	09	MONITOR LEFT/RT GEAR DOWN AND LOCKED LT	1	2.00	100			10		
			2	.72	100			10		

		ON	3	.54	100					10		
4D	10	MON LEFT/RT GEAR	1	.54	100					10		
		DOWN AND LOCKED LT	2	.72	100					10		
		OFF								10		
4D	11	MON LEFT/RT GEAR	1	.54	100					10		
		UNLOCKED LT ON	2	.72	100					10		
4D	12	MON LEFT/RT GEAR	1	.54	100					10		
		UNLOCKED LT OFF	2	.72	100					10		
4D	13	ACTUATE LANDING GEAR								10		
		LEVER OVERRIDE								10		
		TRIGGER								10		
4D	14	OPEN MANUAL GEAR	1	3.5	100	100				10		
		HANDLE RELEASE								10		
		ACCESS COVER								10		
4D	15	CLOSE MANUAL GEAR	1	3.0	50	100				10		
		HANDLE RELEASE								10		
		ACCESS COVER								10		
4D	16	ACTUATE RIGHT MAIN	1	.7	50	100				10		
		GEAR RELEASE HANDLE								10		
4D	17	ACTUATE NOSE GEAR	1	.7	50	100				10		
		RELEASE HANDLE								10		
4D	18	ACTUATE LEFT MAIN	1	.7	50	100				10		
		GEAR RELEASE HANDLE								10		
4D	19	OPEN NOSE GEAR								10		
		VIEWING PORT								10		
4D	20	CLOSE NOSE GEAR								10		
		VIEWING PORT								10		
4D	21	INSPECT NOSE GEAR								10		
		LOCKED INDIC MARK								10		
4D	22	OPEN MAIN GEAR								10		
		VIEWING PORT								10		
4D	23	CLOSE MAIN GEAR								10		
		VIEWING PORT								10		
4D	24	INSPECT MAIN GEAR								10		
		LOCKED INDIC MARKS								10		
4D	27	PULL PARKING BRAKE	1	3.14	80		100			10		
		LEVER	2	3.06	80		100			10		
			3	4	100	100				10		
4D	28	ACTUATE BRAKES	1	1.50				100	100	10		
		USING RUDDER PEDALS	2	10				100	100	10		
			3	30				100	100	10		
4D	29	MON PARKING BRAKE	1	9999						10		
		WARNING LT ON	2	92	100					10		
			3	.25	100					10		
			4	.54	100					10		P
4D	30	MON PARKING BRAKE	1							10		
		WARNING LT OFF	2	92	100					10		
			3	.25	100					10		
			4	.54	100					10		
4D	31	MON LANDING GEAR								10	100	
		NOT DOWN AND LOCKED								10		
		WARNING HORN								10		
4D	32	ACTUATE LANDING GEAR	1	2.16	100	100				10		CP
		WARNING CUTOUT SW								10		
4D	33	SET INBD ANTI-SKID	1	2.18	100	100				10		CP
		SW TO ON	2	1.68	100	100				10		CP
4D	34	SET INBD ANTI-SKID	1	2.18	100	100				10		
		SW TO OFF	2	1.68	100	100				10		
4D	35	SET OUTBD ANTI-SKID	1	2.18	100	100				10		
		SW TO ON	2	1.68	100	100				10		

4D	36	SET OUTBD ANTI-SKID SW TO OFF	1	2.18	100	100			10			
			2	1.68	100	100			10			
4D	37	MON ANTI-SKID INOP LT ON	1	.54	100				10			CP
									10			
4D	38	MON ANTI-SKID INOP LT OFF	1	.54	100				10			
									10			
4D	39	MON AUTO BRAKE INOP LT ON	1	.54	100				10			
									10			
4D	40	MON AUTO BRAKE INOP LT OFF	1	.26	100				10			CP
									10			
4D	41	SET AUTO BRAKE SEL SW TO OFF	1	2.62	100	100			10			CP
			2	2.62	100		100		10			
4D	42	SET AUTO BRAKE SEL SW TO MIN	1	2.62	100	100			10			
									10			
4D	43	SET AUTO BRAKE SEL SW TO MED	1	2.62	100	100			10			
									10			
4D	44	SET AUTO BRAKE SEL SW TO MAX	1	2.62	100	100			10			
									10			
4D	46	ACTUATE LANDING GEAR WARNING HORN CUTOUT SW	1	2.16	100	100			10			CP
									10			
									10			
4D	47	CHECK LANDING GEAR LEVER IN DOWN POS.	1	.90	100				10			
									10			
4D	48	CHECK THAT ANTI-SKID CONT SW GUARDS ARE DOWN	1	1.04	100				10			P
									10			
									10			
4D	49	CHECK AUTO BRAKE SEL SW SET TO OFF	1	1.08	100				10			P
									10			
4D	50	CHECK THAT PARKING BRAKES ARE SET	1	.97	100				10			P
									10			
4D	51	SET PARKING BRAKE LEVER TO OFF POS	1	2	100		100		10			
			2	3	100	100			10			
4D	52	RELEASE BRAKES	1	1.00				100 100	10			
4D	53	SET GEAR SEAL SW TO OFF	1	2.48	100	100			10			CP
									10			
4D	54	SET GEAR SEAL SW TO NORMAL	1	2.48	100	100			10			
									10			
4D	55	MON GEAR SEAL LT ON	1	1	100				10			
4D	56	MON GEAR SEAL LT OFF	1	.55	100				10			
4E	01	SET ALT FLAPS MASTER SW TO ARM	1	2.01	100		100		10			P
			2	1.70	100		100		10			P
4E	02	SET ALT FLAPS MASTER SW TO OFF	1	2.01	100		100		10			
			2	1.70	100		100		10			
4E	03	SET ALT FLAPS SW TO UP	1	2.01	100		100		10			
			2	1.70	100		100		10			
4E	04	SET ALT FLAPS SW TO OFF	1	2.01	100		100		10			
			2	1.70	100		100		10			
4E	05	SET ALT FLAPS SW TO DOWN	1	2.01	100		100		10			
			2	1.70	100		100		10			
			3						10			
4E	06	SET FLAP CONT LEVER TO FLAPS 0	1	1.98	50	100			10			C
			2	2.22	50	100			10			C
			3	2.69	50	100			10			CP
4E	07	SET FLAP CONT LEVER TO FLAPS 1	1	2.69	20	100			10			CP
									10			
4E	08	SET FLAP CONT LEVER TO FLAPS 2	1	2.02	50	100			10			C
			2	2.69	50	100			10			CP
4E	09	SET FLAP CONT LEVER TO FLAPS 5	1	4	50	100			10			
			2	1.93	50	100			10			C
			3	2.69	50	100			10			CP

4E	10	SET FLAP CONT LEVER	1	1.99		50	100			10	C
		TO FLAPS 10	2	2.89		50	100			10	CP
4E	11	SET FLAP CONT LEVER	1	.4		20	100			10	
		TO FLAPS 15	2	4.24		20	100			10	C
			3	2.46		20	100			10	C
			4	2.89		20	100			10	CP
4E	12	SET FLAP CONT LEVER	1	2.90		50	100			10	CP
		TO FLAPS 25								10	
4E	13	SET FLAP CONT LEVER	1	2.91		50	100			10	CP
		TO FLAPS 30								10	
4E	14	SET FLAP CONT LEVER	1	2.92		20	100			10	CP
		TO FLAPS 40								10	
4E	15	MONITOR FLAP	1	2.02		50				10	C
		POSITION INDICATOR	2	.4		50				10	
			3	2.23		50				10	C
			4	.97		50				10	C
4E	16	CHECK FLAP LEVER AND	1	2.50		100				10	
		POSITION INDIC AGREE								10	
4E	17	MON FLAP LEVER POS	1	1.24		50				10	P
4F	01	SET SPD BRAKE LEVER	1	2.61		10		100		10	P
		TO DOWN	2	2.99		10		100		10	
			3	3.26		10		100		10	
			4	2.81		10		100		10	P
4F	02	SET SPEED BRAKE	1	.4		10		100		10	
		LEVER TO ARM	2	.4		10	100			10	
			3	3.26		10		100		10	P
			4	2.81		10		100		10	
4F	03	SET SPEED BRAKE	1	2.99		25		100		10	P
		LEVER TO FLT DETENT	2	2.61		25		100		10	
			3	3.26		25		100		10	
			4	2.81		25		100		10	
4F	04	SET SPEED BRAKE	1	2.61		25		100		10	
		LEVER TO UP	2	2.99		25		100		10	
			3	3.26		25		100		10	
			4	2.81		25		100		10	
4F	05	MON SPD BRAKE DO	1	.73		100				10	
		NOT ARM LT ON	2	.83		100				10	
			3	.35		100				10	P
4F	06	MON SPD BRAKE DO	1	.73		100				10	
		NOT ARM LT OFF	2	.83		100				10	
			3	.35		100				10	
4F	07	MONITOR SPEED BRAKE	1	.2		100				10	
		LEVER ARMED LT	2	.73		100				10	P
		GREEN	3	.83		100				10	CP
			4	.35		100				10	P
4F	08	MON SPD BRAKE LEVER	1	.73		100				10	
		ARMED LT OFF	2	.83		100				10	
			3	.35		100				10	
4F	09	ACTUATE SPEED BRAKE	1	2.09		100		100		10	P
		1 TEST SW	2	1.35		100		100		10	P
4F	10	ACTUATE SPEED BRAKE	1	2.09		100		100		10	
		2 TEST SW	2	1.35		100		100		10	
			3	1.44		100		100		10	P
4F	11	ACTUATE SPEED BRAKE	1	2.09		100		100		10	
		3 TEST SW	2	1.35		100		100		10	
			3	1.47		100		100		10	P
4F	12	MON SPD BRK LEVER IN	1	2.0		100				10	
		DOWN AND DETENT POS.								10	
4G	01	ADJUST AILERON	1	4.04				100		10	
		TRIM WHEEL								10	

4G	02	ADJ STABILIZER TRIM WHEEL	1	2.56		50		100			10			P
			2	3.42		50	100				10			CP
			3	3.42		50		100			10			P
4G	03	MON STABILIZER TRIM INDIC	1	2.48		100					10			P
			2	.26		100					10			
			3	2.01		100					10			CP
4G	04	SET PILOT STAB TRIM SWITCHES	1	2.11					100		10			
											10			
4G	05	ALTUATE STABILIZER BRAKE RELEASE	1	3.16		100		100			10			P
											10			
4G	06	ACTUATE STABILIZER BY CWS									10			
											10			
4G	07	ADJUST RUDDER TRIM WHEEL	1	3.59				100			10			
											10			
4G	08	SET STAB TRIM MAIN ELEC CUTOUT SW TO NORMAL	1	2.22		100	100				10			CP
			2	2.22		100		100			10			
											10			
4G	09	SET STAB TRIM MAIN ELEC CUTOUT SW TO CUTOUT	1	2.22		100	100				10			
			2	2.22		50		100			10			
											10			
4G	10	SET STAB TRIM A/P CUTOUT SW TO NORM	1	2.22		100	100				10			
			2	1.25		100		100			10			
4G	11	SET STAB TRIM A/P CUTOUT SW TO CUTOUT	1	2.22		100	100				10			
											10			
4G	12	MONITOR TAKEOFF WARNING HORN									10	100		
											10			
4G	13	MON STAB TRIM LT ON	1	2.48		100					10			P
			2	2.13		100					10			CP
			3	.75		100					10			P
			4	.66		100					10			P
4G	14	MON STAB TRIM LT OFF	1	2.48		100					10			
			2	2.13		100					10			
			3	.75		100					10			
			4	.66		100					10			
4G	15	CHECK THAT STAB TRIM CUTOUT SW"S SET TO NORMAL	1	1.30		100					10			P
											10			
											10			
4G	16	OPEN MAN STAB TRIM HANDLE	1	5		20	100				10			
			2	5		20		100			10			
4G	17	STOW MANUAL STAB HANDLE	1	3.5		20	100				10			
			2	3.5		20		100			10			
4H	01	SET FFD CWS SW TO ENGAGED	1	2.05		100		100			10			
											10			
4H	02	SET FFD CWS SW TO DISENGAGED	1	2.05		100		100			10			
											10			
4H	03	MON FFD CWS SW SET TO ENGAGED	1	1.50		100					10			
											10			
4H	04	MON FFD CWS SW SET TO DISENGAGED	1	1.50		100					10			
											10			
4H	05	SET AUTOPILOT TO HYD SYS A	1	2.37		100		100			10			
											10			
4H	06	SET AUTOPILOT TO HYD SYS B	1	2.37		100		100			10			
											10			
4M	01	ACTUATE NOSE GEAR STEERING WHEEL	1	5.68			100				10			
			2	2.94			100				10			P
			3	150			100				10			
			4	10			100				10			
4M	02	ACTUATE NOSE GEAR STEERING USING RUDDER PEDALS	1	15					100		10			
			2	20						100	10			
			3	150					100	100	10			

			4	68				100	100	10	
4M	03	ACTUATE NOSE GEAR	1	45				100	100	10	
		STEERING USING	2	100				100	100	10	
		RUDDER PEDALS	3	90				100	100	10	
			4	10				100	100	10	
4M	04	ACTUATE NOSE GEAR	1	140				100	100	10	
		STEERING USING	2	35				100	100	10	
		RUDDER PEDALS	3	75				100	100	10	
			4	58				100	100	10	
4M	05	ACTUATE NOSE GEAR	1	15		100				10	
		STEERING WHEEL								10	
4N	01	MONITOR LEADING EDGE	1	2	100					10	
		DEVICE POSITION	2	2.34	100					10	AC
		INDICATOR LTS	3	2.24	100					10	C
			4	2.81	100					10	P
4N	02	ACTUATE LEADING EDGE	1	2.05	100		100			10	P
		DEVICE ANNUN PNL	2	1.52	100		100			10	P
		TEST SW	3	1.82	100	100				10	AC
4N	03	MON LE FLAPS-IN-	1	.54	100					10	C
		TRANSIT LT ON	2	1.17	100					10	P
4N	04	MON LE FLAPS-IN-	1	.54	100					10	C
		TRANSIT LT OFF	2	1.17	100					10	
4N	05	MON LE FLAPS EXT	1	.54	100					10	C
		LT ON	2	1.17	100					10	
4N	06	MON LE FLAPS EXT	1	.54	100					10	C
		LT OFF	2	1.17	100					10	
5D	01	MONITOR ADF NO 1	1	.77	90					10	P
		FREQ INDIC	2	1.98	90					10	
			3	2.86	90					10	
5D	02	SELECT ADF NO 1 FREQ	1	2.86	10		100			10	P
		INDIC	2	1.98	10		100			10	P7
			3	1.98	10	100				10	
5D	03	SET ADF NO 1 FUNC	1	1.85	100	100				10	C
		SEL SW TO OFF	2	2.06	100		100			10	
			3	1.93	100		100			10	P
5D	04	SET ADF NO 1 FUNC	1	1.85	100	100				10	
		SEL SW TO ANT	2	2.06	100		100			10	
			3	1.93	100		100			10	
5D	05	SET ADF NO 1 FUNC	1	1.85	100	100				10	
		SEL SW TO ADF	2	2.06	100		100			10	
			3	1.93	100		100			10	
			4	2.20	100	100				10	
5D	06	ADJUST ADF NO 1 GAIN	1	1.93	100		100			10	P
5D	08	SET COMM 2 FILTER	1	2.00	100		100			10	P
		SEL SW TO VOICE								10	
5D	09	SET COMM 2 FILTER	1	2.00	100		100			10	
		SEL SW TO BOTH								10	
5D	10	SET COMM 2 FILTER	1	2.00	100		100			10	
		SEL SW TO RANGE								10	
5D	11	MON ADF 1 AUDIO VIA								10	
		LOUDSPEAKER								10	
5D	12	MON ADF 1 AUDIO VIA								10	
		HEADSET								10	
5D	13	ACTUATE COMM 2 ADF-1	1	1.43	100		100			10	P
		COMM RECVR SW	2	2.46	100		100			10	P
			3	2.44	100	100				10	CP
5D	14	ADJUST ADF NO 1 COMM	1	1.96	10		100			10	P
		RECVR VOL								10	
5D	15	SET ADF NO.1 FUNC	1	1.85	100	100				10	C
		SEL SW TO LOOP	2	2.06	100		100			10	

				3	1.93	100		100		10	P
5D	16	SET ADF NO.1 BFO SW TO ON	1	1.42		100		100		10	P
										10	
5D	17	SET ADF NO.1 BFO SW TO OFF	1	1.42		100		100		10	
			2	2.75		100		100		10	
			3	3.00		100	100			10	
5D	18	ADJUST ADF NO.1 LOOP CONT	1	2.74		100		100		10	P
										10	
5D	19	SEL ADF NO.1 FREQ BAND .19-.40	1	2.13		100		100		10	P
			2	2.75		100		100		10	P
			3	3.00		100	100			10	
5D	20	SEL ADF NO.1 FREQ BAND .40-.84	1	2.13		100		100		10	
			2	2.75		100		100		10	
5D	21	SEL ADF NO.1 FREQ BAND .84-1.75	1	2.13		100		100		10	
			2	2.75		100		100		10	
5D	22	MON ADF NO.1 TUNING METER INDIC	1	.77		100				10	P
										10	
5D	23	MON ADF/RMI 1 INDIC FOR COMPASS HDG	1	2.23		100				10	P
			2							10	
5D	24	MON ADF/RMI 1 SYNC ANNUN	1	2.23		100				10	
			2	2.02		100				10	P
5D	25	ADJUST ADF/RMI 1 SYNC SEL	1	2.47		100	100			10	P
										10	
5D	26	MON ADF/RMI 1 COMPASS WARNING FLAG IN VIEW	1	2.23		100				10	
										10	
										10	
5D	27	MON ADF/RMI 1 COMPASS WARNING FLAG OUT OF VIEW	1	2.23		100				10	
										10	
										10	
5D	28	MON ADF POINTER NO.1 ON ADF/RMI 1 INDIC	1	2.23		100				10	
			2	2		10				10	
5D	29	MON ADF POINTER NO.2 ON ADF/RMI 1 INDIC	1	2.23		100				10	
			2	2		10				10	
5E	01	MON ADF NO 2 FREQ. INDIC	1	.77		100				10	CP
			2	1.98		100				10	
5E	02	SELECT ADF NO 2 FREQ	1	2.14			100			10	CP
			2	2.80			100			10	CP
			3	1.98			100			10	CP
5E	03	SET ADF NO 2 FUNC SEL SW TO OFF	1	1.94		100	100			10	CP
										10	
5E	04	SET ADF NO 2 FUNC SEL SW TO ANT	1	1.94		100	100			10	
										10	
5E	05	SET ADF NO 2 FUNC SEL SW TO ADF	1	1.94		100	100			10	
										10	
5E	06	ADJUST ADF NO 2 GAIN	1	1.94		100	100			10	
5E	07	SET COMM 2 FILTER SEL SW TO VOICE	1	2.09		100	100			10	CP
										10	
5E	08	SET COMM 2 FILTER SEL SW TO BOTH	1	2.09		100	100			10	
										10	
5E	09	SET COMM 2 FILTER SEL SW TO RANGE	1	2.09		100	100			10	
										10	
5E	10	MON ADF NO 2 AUDIO VIA LOUDSPEAKER								10	
										10	
5E	11	MON ADF NO 2 AUDIO VIA HEADSET								10	
										10	
5E	12	ACTUATE COMM 2 ADF-2 COMM RECVR SW	1	1.51		100	100			10	
			2	2.48		100		100		10	P
5E	13	SET ADF NO.2 FUNC SEL SW TO LOOP	1	1.94		100	100			10	
										10	
5E	14	SET ADF NO.2 BFO SW	1	1.42		100	100			10	CP

		TO ON								10	
5E	15	SET ADF NO.2 BFO SW TO OFF	1	1.42	100	100				10	
5E	16	ADJUST ADF NO.2 LOOP CONT	1	2.85	100	100				10	CP
5E	17	SEL ADF NO.2 FREQ BAND .19-.40	1	2.80	20	100				10	CP
			2	2.69	20	100				10	CP
5E	18	SEL ADF NO.2 FREQ BAND .40-.84	1	2.80	20	100				10	
			2	2.69	20	100				10	
5E	19	SEL ADF NO.2 FREQ BAND .84-1.75	1	2.80	20	100				10	
			2	2.69	20	100				10	
5E	20	MON ADF NO.2 TUNING METER INDIC	1	2.26	100					10	CP
5E	21	MON ADF/RMI 2 INDIC FOR COMPASS HDG	1	2.26	100					10	
5E	22	MON ADF/RMI 2 SYNC ANNUN	1	2.26	100					10	
5E	23	ADJUST ADF/RMI 2 SYNC SEL	1	2.68	100	100				10	CP
5E	24	MON ADF/RMI 2 COMPASS FLAG IN VIEW	1	2.26	100					10	
5E	25	MON ADF/RMI 2 COMPASS FLAG OUT OF VIEW	1	2.26	100					10	
5E	26	MON ADF NO.1 POINTER ON ADF/RMI 2 INDIC	1	2.26	100					10	
			2	2	10					10	
5E	27	MON ADF NO.2 POINTER ON ADF/RMI 2 INDIC	1	2.26	100					10	
			2	2	10					10	
5G	01	SET VOR/RMI COMPASS SEL SW TO NO.2 NORM	1	2.15	100	100				10	P
5G	02	SET VOR/RMI COMPASS SEL SW TO NO.1	1	2.15	100	100				10	
5G	03	MON COMPASS HDG ON VOR/RMI 1 INDIC	1	2.25	100					10	P
5G	04	MON VOR POINTER NO.1 ON VOR/RMI 1 INDIC	1	2.25	100					10	
			2	2	10					10	
5G	05	MON VOR POINTER NO.2 ON VOR/RMI 1 INDIC	1	2.25	50					10	
			2	2	10					10	
5G	06	SET COMPASS SEL SW TO NO.1	1	1.46	50	100				10	P
5G	07	SET COMPASS SEL SW TO NO.2	1	1.46	100	100				10	
5H	01	MON COMPASS HDG ON VOR/RMI 2 INDIC	1	2.27	100					10	CP
			2	2.03	100					10	CP
5H	02	MON VOR POINTER NO.1 ON VOR/RMI 2 INDIC	1	2.27	100					10	
			2	2.03	100					10	
			3	2	10					10	
5H	03	MON VOR POINTER NO.2 ON VOR/RMI 2 INDIC	1	2.27	100					10	
			2	2.03	100					10	
			3	2	10					10	
5K	01	FOLD MAG COMPASS INTO VIEW	1	3.50	100		100			10	
5K	02	MON MAG COMPASS HEADING INDIC	1	1.50	100					10	
5K	03	FOLD MAG COMPASS OUT OF VIEW	1	3.50	100		100			10	
			2	1.75	100		100			10	
5P	01	MONITOR RANGE INDIC ON DME RNG NO 1	1	1.04	100					10	CP
			2	.96	100					10	
			3	1.16	100					10	
			4	.80	100					10	

5Q	01 MON RANGE INDIC ON	1	1.03	100			10	CP
	DME RNG NO 2	2	.96	100			10	
		3	1.16	100			10	CP
		4	.80	100			10	P
5U	01 MON NAV-1 FREQ INDIC	1	.76	100			10	
		2	4.97	90			10	
		3	5.08	90			10	
5U	02 SET NAV-1 FREQ -	1	2.89	10		100	10	
	WHOLE NO.S	2	2.08	10		100	10	
		3	3.00	10	100		10	CP
		4	2.08	10	100		10	
5U	03 SET NAV-1 FREQ -	1	2.08	10		100	10	
	FRACTIONS	2	2.08	10	100		10	CP
5U	04 ADJUST NAV-1 VOLUME	1	2.08	10		100	10	
		2	2.20	10	100		10	
5U	05 ACT NAV-1 UP/LT TEST	1	2.24	10		100	10	P
	SW						10	
5U	06 ACT NAV-1 DN/RT TEST	1	1.97	10		100	10	P
	SW						10	
5U	07 ACT NAV-1 VOR TEST	1	2.26	10		100	10	P
	SW	2	2.35	10	100		10	CP
5U	08 ACT NAV-1 DME TEST	1	1.97	10	100		10	CP
	SW	2	2.34	10	100		10	CP
		3	2.20	10		100	10	P
5U	09 SET COMM 2 FILTER	1	2.00	100		100	10	P
	SEL SW TO VOICE						10	
5U	10 SET COMM 2 FILTER	1	2.00	100		100	10	
	SEL SW TO BOTH						10	
5U	11 SET COMM 2 FILTER	1	2.00	100		100	10	
	SEL SW TO RANGE	2	2.00	100	100		10	
5U	12 SET COMM 2 NAV-1 NAV	1	2.46	100		100	10	
	RCVR SW TO ON	2	2.44	100		100	10	
		3	1.39	100	100		10	
		4	2.26	100	100		10	
5U	13 SET COMM 2 NAV-1 NAV	1	2.46	100		100	10	
	RCVR SW TO OFF	2	2.44	100		100	10	
		3	1.39	100	100		10	
		4	2.26	100	100		10	
5U	14 MON NAV-1 AUDIO						10	
5V	01 MON NAV-2 FREQ INDIC	1	.76	100			10	
		2	4.71	90			10	
		3	4.91	90			10	
5V	02 SET NAV-2 FREQ -	1	2.73	10	100		10	C
	WHOLE NO.S	2	2.93	10	100		10	CP
		3	2.97	10		100	10	P
5V	03 SET NAV-2 FREQ -	1	1.98	10	100		10	CP
	FRACTIONS	2	1.98	10		100	10	
		3	2.10	10		100	10	P
5V	04 ADJUST NAV-2 VOLUME	1	2.18	10	100		10	C
		2	2.93	10	100		10	CP
5V	05 ACT NAV-2 UP/LT TEST	1	1.79	10	100		10	CP
	SW						10	
5V	06 ACT NAV-2 DN/RT TEST	1	1.97	10	100		10	CP
	SW						10	
5V	07 ACT NAV-2 VOR TEST	1	2.28	10	100		10	CP
	SW	2	2.34	10		100	10	P
5V	08 ACT NAV-2 DME TEST	1	1.84	10	100		10	CP
	SW						10	
5V	09 SET COMM 2 FILTER	1	2.09	100	100		10	CP
	SEL SW TO VOICE	2	2.00	100		100	10	P

			3	2.83	100	100		10	CP
5V	10	SET COMM 2 FILTER	1	2.09	100	100		10	
		SEL SW TO BOTH	2	2.00	100		100	10	
			3	2.83	100	100		10	
5V	11	SET COMM 2 FILTER	1	2.09	100	100		10	
		SEL SW TO RANGE	2	2.00	100		100	10	
			3	2.83	100	100		10	
5V	12	SET COMM 2 NAV-2 NAV	1	2.40	100	100		10	CP
		RECVR SW TO ON	2	1.40	100	100		10	
			3	2.49	100		100	10	P
			4	1.39	100		100	10	
5V	13	SET COMM 2 NAV-2 NAV	1	2.40	100	100		10	
		RECVR SW TO OFF	2	1.40	100	100		10	
			3	2.49	100		100	10	
			4	1.39	100		100	10	
5V	14	MON NAV-2 AUDIO						10	
5W	01	MON NAV-1 FREQ INDIC	1	.76	100			10	AP
			2	4.49	100			10	
			3	3.95	100			10	
5W	02	SET NAV-1 FREQ -	1	2.91			100	10	A
		WHOLE NO.S	2	2.37		100		10	AC
5W	03	SET NAV-1 FREQ -	1	1.58			100	10	
		FRACTIONS	2	1.58		100		10	
5W	04	ADJ NAV-1 VOLUME	1	1.58	10		100	10	
			2	2.91	10		100	10	
			3	1.58	10	100		10	
			4	2.91	10	100		10	
5W	05	SET COMM 1 NAV-1 NAV	1	2.28	100		100	10	A
		RECVR SW TO ON	2	2.40	100	100		10	AC
5W	06	SET COMM 1 NAV-1 NAV	1	2.28	100		100	10	
		RECVR SW TO OFF	2	2.40	100	100		10	
5X	01	MON NAV-2 FREQ INDIC	1	.76	100			10	A
			2	4.57	100			10	
			3	4.53	100			10	
5X	02	SET NAV-2 FREQ -	1	2.89	10		100	10	A
		WHOLE NO.S	2	2.95		100		10	AC
5X	03	SET NAV-2 FREQ -	1	1.58	10		100	10	
		FRACTIONS	2	1.58		100		10	
5X	04	ADJ NAV-2 VOLUME	1	1.58	10		100	10	
			2	2.99	10		100	10	
5X	05	SET COMM 2 NAV-2 NAV	1	2.39	100		100	10	A
		RECVR SW TO ON	2	2.28	100	100		10	AC
5X	06	SET COMM 2 NAV-2 NAV	1	2.39	100		100	10	
		RECVR SW TO OFF	2	2.28	100	100		10	
5Y	01	MON NAV-3 FREQ INDIC	1	.76	100			10	A
			2	4.65	100			10	
			3	4.70	100			10	
5Y	02	SET NAV-3 FREQ-	1	3.07	10		100	10	A
		WHOLE NO.S	2	3.12		100		10	
5Y	03	SET NAV-3 FREQ-	1	1.58	10		100	10	
		FRACTIONS	2	1.58	10	100		10	5Y
5Y	04	ADJ NAV-3 VOLUME	1	3.07	10		100	10	
			2	3.12	10	100		10	
5Y	05	SET COMM 3 NAV-3 NAV	1	2.50	100	100		10	AC
		RECVR SW TO ON						10	
5Y	06	SET COMM 3 NAV-3 NAV	1	2.50	100	100		10	
		RECVR SW TO OFF						10	
6A	01	MON WEATHER RADAR	1	4.11	100			10	
		VIDEO	2	2.39	100			10	P
			3	2.00	100			10	P

6A	02 SEL 30-10 PPI SCALE	1	2.66	80		100		10		
		2	2.18	80		100		10		P
		3	2.66	80	100			10		
6A	03 SEL 80-20 PPI SCALE	1	2.66	80		100		10		
		2	2.18	80		100		10		
6A	04 SEL 180-30 PPI SCALE	1	2.66	80		100		10		
		2	2.18	80		100		10		
6A	05 ADJUST PPI TRACE CON	1	2.21	80		100		10		P
6A	06 ADJUST PPI ERASE RATE CONT	1	2.28	80		100		10 10		P
6A	07 ADJUST PPI DIMMER	1	2.19	80		100		10		
		2	2.14	80		100		10		P
6A	08 ADJUST PPI POLARI-ZATION CONT							10 10		
6A	09 SET W/R FUNC SEL SW TO OFF	1	2.37	100	100			10		CP
		2	2.38	100		100		10		P
6A	10 SET W/R FUNC SEL SW TO STBY	1	2.37	100	100			10		
		2	2.38	100		100		10		
6A	11 SET W/R FUNC SEL SW TO NORM	1	2.37	100	100			10		
		2	2.38	100		100		10		
6A	12 SET W/R FUNC SEL SW TO CTR	1	2.37	100	100			10		
		2	2.38	100		100		10		
6A	13 SET W/R FUNC SEL SW TO MAP	1	2.37	100	100			10		
		2	2.38	100		100		10		
6A	14 SET W/R FUNC SEL SW TO TEST	1	2.37	100	100			10		
		2	2.38	100		100		10		
6A	15 ADJUST W/R GAIN CONT	1	2.17	80		100		10		
		2	2.12	80		100		10		P
6A	16 ADJUST W/R ANT TILT CONT	1	2.17	80		100		10		
		2	2.02	80		100		10		P
6'	17 CHECK W/R OFF	1	2.17	100				10		
	01 SET HYD PUMP A NO 1 ENG SW TO ON	1	2.75	100		100		10		
		2	1.46	100	100			10		
		3	2.55	100	100			10		CP
		4	1.46	100		100		10		
7A	02 SET HYD PUMP A NO 1 ENG SW TO OFF	1	1.95	100	100			10		
		2	1.46	100	100			10		
		3	1.46	100		100		10		
		4	2.75	100		100		10		
7A	03 SET HYD PUMP A NO 2 ENG SW TO ON	1	1.95	100	100			10		
		2	1.46	100	100			10		
7A	04 SET HYD PUMP A NO 2 ENG SW TO OFF	1	1.95	100	100			10		
		2	1.46	100	100			10		
		3	1.46	100		100		10		
7A	05 SET HYD PUMP B NO 1 ENG SW TO ON	1	1.95	100	100			10		
		2	1.46	100	100			10		
		3	1.46	100		100		10		
7A	06 SET HYD PUMP B NO 1 ENG SW TO OFF	1	1.95	100	100			10		CP
		2	1.46	100	100			10		
		3	1.46	100		100		10		
7A	07 SET HYD PUMP B NO 2 ENG SW TO ON	1	1.95	100	100			10		
		2	1.46	100	100			10		
		3	1.46	100		100		10		
7A	08 SET HYD PUMP B NO 2 ENG SW TO OFF	1	1.46	100	100			10		CP
		2	1.95	100	100			10		
		3	1.46	100		100		10		
7A	09 MON HYD SYS A NO 1 PUMP LO PRESS LT ON	1	.55	100				10 10		
7A	10 MON HYD SYS A NO P PUMP LO PRESS LT OFF	1	.55	100				10 10		

7A	11	MON HYD SYS B NO 1 PUMP LO PRESS LT ON	1	.55	100			10		CP
7A	12	MON HYD SYS B NO 1 PUMP LO PRESS LT OFF	1	.55	100			10		
7A	13	MON HYD SYS B NO 2 PUMP LO PRESS LT ON	1	.55	100			10		CP
7A	14	MON HYD SYS B NO 2 PUMP LO PRESS LT OFF	1	.55	100			10		
7A	15	MON HYD SYS B NO 1 PUMP OVRHT LT ON	1	.55	100			10		
7A	16	MON HYD SYS B NO 1 PUMP OVRHT LT OFF	1	.55	100			10		
7A	17	MON HYD SYS B NO 2 PUMP OVRHT LT ON	1	.55	100			10		
7A	18	MON HYD SYS B NO 2 PUMP OVRHT LT OFF	1	.55	100			10		
7A	19	MON HYD BRAKE PRESS INDIC	1	2.24	100			10		C
			2	2.07	100			10		CP
7A	20	MON HYD PRESS INDIC	1	2.03	100			10		CP
			2	2.24	100			10		
7A	21	MON HYD SYS A QTY INDIC	1	2.02	100			10		CP
			2	2.24	100			10		
7A	22	MON HYD SYS B LO QTY LT ON	1	.54	100			10		CP
			2	1.27	100			10		CP
7A	23	MON HYD SYS B LO QTY LT OFF	1	.54	100			10		
			2	1.27	100			10		
7A	24	MON MASTER CAUT AND HYDRAULIC ANNUN LTS ON	1	.53	100			10		
7A	25	ACTUATE MASTER CAUT RESET SW	1	2.14	100	100		10		
			2	2.14	100		100	10		
7A	26	MON HYD ANNUN LT ON	1	.53	100			10		CP
7A	27	MON HYD ANNUN LT OFF	1	.53	100			10		
7A	28	ACTUATE ANNUN PNL RECALL SW	1	2.28	10	100		10		
			2	1.93	10	100		10		7A
7A	29	CHECK SYS B HYD PUMP SWS OFF	1	.90	100			10		
			2	1.52	100			10		P
7A	30	CHECK ENG NO.1 SYS A HYD PUMP SW SET TO ON	1	1.36	100			10		P
7A	31	CHECK ENG NO.2 SYS A HYD PUMP SW SET TO ON	1	.75	100			10		P
7A	32	MON HYD SYS SWS	1	2.00	100			10		
7A	33	MON MASTER CAUTION AND ALL ANNUN PNL LTS ILLUMINATED	1	.70	100			10		
			2	.54	100			10		
7A	34	SET GROUND INTER-CONNECT SW TO OPEN	1	1.48	100	100		10		CP
			2	2.58	100		100	10		P
7A	35	SET GROUND INTER-CONNECT SW TO CLOSED	1	1.48	100	100		10		
			2	2.58	100		100	10		
7A	36	MON ALL ANNUN LTS	1	.53	100			10		
7A	37	MON OVHD PNL LTS	1	2.2	100			10		
7A	38	MON HYD SYS A NO 2 PUMP LO PRESS LT ON	1	.55	100			10		
7A	39	MON HYD SYS A NO 2 PUMP LO PRESS LT ON	1	.55	100			10		
7B	03	MON NO 1 GEN DR LOW OIL PRESS LT ON	1	1.02	100			10		P
7B	04	MON NO 1 GEN DR LOW	1	1.02	100			10		

		OIL PRESS LT OFF							10	
7B	05	MON NO 1 GEN DR HIGH	1	1.02	100				10	
		OIL TEMP LT ON							10	
7B	06	MON NO 1 GEN DR HIGH	1	1.02	100				10	
		OIL TEMP LT OFF							10	
7B	07	ACTUATE NO 1 GEN DR	1	1.72	100		100		10	P
		DISCONNECT SW	2	1.96	100		100		10	P
7B	08	MON NO 1 GEN DR OIL	1	2.08	100				10	P
		TEMP INDIC							10	
7B	09	MON NO 2 GEN DR LOW	1	1.02	100				10	
		OIL PRESS LT ON	2	1	50				10	
7B	10	MON NO 2 GEN DR LOW	1	1.02	100				10	
		OIL PRESS LT OFF	2	1	50				10	
7B	11	MON NO 2 GEN DR HIGH	1	1.02	100				10	
		OIL TEMP LT ON	2	1	50				10	
7B	12	MON NO 2 GEN DR HIGH	1	1.02	100				10	
		OIL TEMP LT OFF	2	1	50				10	
7B	13	ACTUATE NO 2 GEN DR	1	1.72	100		100		10	
		DISCONNECT SW	2	1.96	100		100		10	
7B	14	MON NO 2 GEN DR OIL	1	2.08	100				10	
		TEMP INDIC							10	
7B	15	SET STDBY PWR SW TO	1	2.94	100		100		10	P
		BAT	2	1.96	100		100		10	
7B	16	SET STDBY PWR SW TO	1	2.94	100		100		10	
		OFF							10	
7B	17	SET STDBY PWR SW TO	1	2.94	100		100		10	
		AUTO	2	1.96	100		100		10	
7B	18	MON STDBY PWR OFF	1	1.17	100				10	P
		LT ON	2	.89	100				10	P
7B	19	MON STDBY POWER OFF	1	1.17	100				10	P
		LT OFF	2	.89	100				10	
7B	20	SET GEN DR TEMP SW	1	2.61	100		100		10	P
		TO RISE							10	
7B	21	SET GEN DR TEMP SW	1	2.61	100		100		10	
		TO IN							10	
7B	22	SET BUS TX SW TO OFF	1	2.81	100		100		10	P
7B	23	SET BUS TX SW TO	1	2.81	100		100		10	
		AUTO							10	
7B	24	MON APU GEN OFF BUS	1	.63	100				10	P
		LT ON	2	.92	100				10	P
7B	25	MON APU GEN OFF BUS	1	.63	100				10	P
		LT OFF	2	.92	100				10	
7B	26	MON GEN NO 1 TRANS-	1	.59	70				10	P
		FER BUS OFF LT ON	2	.92	70				10	
7B	27	MON GEN NO 1 TRANS-	1	.59	70				10	P
		FER BUS OFF LT OFF	2	.92	70				10	
7B	28	MON GEN NO.1 BUS OFF	1	.59	100				10	
		LT ON	2	.92	100				10	
7B	29	MON BEN NO.1 BUS OFF	1	.59	100				10	
		LT OFF	2	.92	100				10	
7B	30	MON GEN NO.1 GEN OFF	1	.59	100				10	
		BUS LT ON	2	.92	100				10	
7B	31	MON GEN NO.1 GEN OFF	1	.59	100				10	
		BUS LT OFF	2	.92	100				10	
7B	32	SET GEN NO.1 SW TO	1	1.72	100		100		10	P
		ON							10	
7B	33	SET GEN NO.1 SW TO	1	1.72	100		100		10	
		OFF	2	1.72	100	100			10	7B
7B	34	SET APU GEN NO.1 SW	1	1.98	100		100		10	P
		TO ON	2	1.50	100		100		10	P

				3	1.75	100		100	10	P
				4	1.75	100	100		10	
7B	35	SET APU GEN NO.1 SW TO OFF	1	1.98		100		100	10	P
			2	1.50		100		100	10	P
			3	1.75		100		100	10	
7B	36	MON GEN NO.2 TRANS FER BUS OFF LT ON	1	.59		100			10	P
			2	.92		100			10	
7B	37	MON GEN NO.2 TRANS- FER BUS OFF LT OFF	1	.59		100			10	
			2	.92		100			10	
7B	38	MON GEN NO.2 BUS OFF LT ON	1	.59		100			10	
			2	.92		100			10	
7B	39	MON GEN NO.2 BUS OFF LT OFF	1	.59		100			10	
			2	.92		100			10	
7B	40	MON GEN NO.2 GEN OFF BUS LT ON	1	.59		100			10	
			2	.92		100			10	
7B	41	MON GEN NO.2 GEN OFF BUSS LT OFF	1	.59		100			10	
									10	
7B	42	SET GEN NO.2 SW TO ON	1	1.72		100		100	10	
									10	
7B	43	SET GEN NO.2 SW TO OFF	1	1.72		100		100	10	
									10	
7B	44	SET APU GEN NO.2 SW TO ON	1	1.98		100		100	10	P
			2	1.50		100		100	10	P
7B	45	SET APU GEN NO.2 SW TO OFF	1	1.98		100		100	10	
			2	1.50		100		100	10	
7B	46	SET GRD PWR SW TO ON	1	2.44		100		100	10	P
7B	47	SET GRD PWR SW TO OFF	1	2.44		100		100	10	
									10	
7B	48	MON GRD PWR AVAIL LT ON	1	1.02		100			10	
									10	
7B	49	MON GRD PWR AVAIL LT OFF	1	1.02		100			10	
									10	
7B	50	MON NO.1 GEN AC AMPS INDIC	1	2.16		100			10	P
									10	
7B	51	MON NO.2 GEN AC AMPS INDIC	1	2.16		100			10	
									10	
7B	52	MON DC AMPS INDIC	1	2.04		100			10	
			2	1		100			10	
7B	53	MON DC VOLTS INDIC	1	2.06		100			10	
7B	54	SET BATTERY SW TO ON	1	2.06		100		100	10	
			2	3.30		100		100	10	
7B	55	SET BATTERY SW TO OFF	1	2.06		100		100	10	
			2	3.30		100		100	10	
			3	3.30		100	100		10	
7B	56	SET DC METER SEL SW TO STDBY PWR	1	3.36		100		100	10	
			2	2.18		100		100	10	
7B	57	SET DC METER SEL SW TO BATT	1	3.36		100		100	10	
			2	2.18		100		100	10	
7B	58	SET DC METER SEL SW TO TR 1	1	3.36		100		100	10	
			2	2.18		100		100	10	
7B	59	SET DC METER SEL SW TO TR 2	1	3.36		100		100	10	
			2	2.18		100		100	10	
7B	60	SET DC METER SEL SW TO TR 3	1	3.36		100		100	10	
			2	2.18		100		100	10	
7B	61	SET DC METER SEL SW TO TEST	1	3.36		100		100	10	
			2	2.18		100		100	10	
7B	62	MON AC FREQ INDIC	1	2.04		100			10	P
7B	63	MON [illegible] VOLTS INDIC	1	2.06		100			10	P
			2	1		100			10	
7B	64	SET AC METER SEL SW	1	3.36		100		100	10	P

		TO STDBY PWR	2	2.18	100		100	10	P
7B	65	SET AC METER SEL SW	1	3.36	100		100	10	
		TO GND PWR	2	2.18	100		100	10	
7B	66	SET AC METER SEL SW	1	3.36	100		100	10	
		TO GEN 1	2	2.18	100		100	10	
7B	67	SET AC METER SEL SW	1	3.36	100		100	10	
		TO APU GEN	2	2.18	100		100	10	
7B	68	SET AC METER SEL SW	1	3.36	100		100	10	
		TO GEN 2	2	2.18	100		100	10	
7B	69	SET AC METER SEL SW	1	3.36	100		100	10	
		TO TEST	2	2.18	100		100	10	
7B	70	SET GALLEY PWR SW	1	.56	100		100	10	P
		TO ON	2	1.00	100		100	10	P
7B	71	SET GALLEY PWR SW	1	.56	100		100	10	
		TO OFF	2	1.00	100		100	10	
			3	1.80	100	100		10	
7B	72	ACTUATE RESIDUAL	1	2.57	100		100	10	P
		VOLTS SW	2	2.06	90		100	10	
7B	73	MON MASTER CAUTION AND ELEC ANNUN LTS ON	1	.73	100			10	P
7B	74	ACTUATE MASTER CAUT	1	2.13	100		100	10	P
		RESET SW	2	2.49	100		100	10	P
7B	75	MON ELEC ANNUN LT ON	1	.54	100			10	P
7B	76	MON ELEC ANNUN LT OFF	1	.54	100			10	
7B	77	ACTUATE ANNUN PNL	1	2.13	100			10	
		RECALL SW	2	2.49	100			10	
7B	78	SET EQUIP COOLING SW TO NORMAL	1	1.65	100		100	10	P
7B	79	SET EQUIP COOLING SW TO ALTERNATE	1	1.65	100		100	10	
7B	80	MON EQUIP COOLING	1	1.04	100			10	P
		OFF LT ON	2	1.13	100			10	P
7B	81	MON EQUIP COOLING	1	1.04	100			10	
		OFF LT OFF	2	1.13	100			10	
7B	82	MON OVHD ANNUN LT ON	1	.54	100			10	
7B	83	MON OVHD ANNUN LT OFF	1	.54	100			10	
7B	84	CHECK BATT SW ON	1	.90	100			10	
7B	85	CHECK CB35 ON P-6 PNL	1	4.00	100			10	
7B	86	CHECK MASTER ELEC SW	1	4.00	100			10	
		ON P-6 PNL	2	2.00	100			10	
7B	87	CHECK CB35 ON P-18 PNL	1	4.00	100			10	
7B	88	CHECK ENG NO.1 GEN DR DISCON SW SAFETIED	1	1.33	100			10	P
7B	89	CHECK ENG NO.2 GEN DR DISCON SW SAFETIED	1	.80	100			10	P
7B	90	CHECK THAT CSD DRIVE TEMP SW SET TO IN	1	1.39	100			10	P
7B	91	CHECK THAT BUS TX SW IS SET TO AUTO	1	1.23	100			10	P
7B	92	CHECK THAT EQUIP COOLING SW IS SET TO NORMAL	1	1.35	100			10	P
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		SET TO ON							10	
7B	94	MON GALLEY POWER SW	1	1.41	100				10	
		SET TO OFF							10	
7C	01	MON V-REF INDIC	1	2.3	100				10	
7C	02	SET ZERO FUEL WT SEL	1	4	20		80		10	
7C	03	MON ZERO FUEL WT	1	4	80				10	
7C	07	SET LANDING FLAP SEL	1	1.8	100		100		10	
7C	09	MON TANK NO 1 FUEL	1	2.02	100				10	P
		QTY INDIC	2	2.27	100				10	P
			3	3	30				10	
7C	10	MON TANK NO.2 FUEL	1	2.02	100				10	P
		QTY INDIC	2	2.27	100				10	P
			3	3	30				10	
7C	11	MON CTR TANK FUEL	1	2.10	100				10	P
		QTY INDIC	2	2.46	100				10	P
			3	3	30				10	
7C	12	MON FUEL TEMP INDIC	1	2.05	100				10	P
7C	13	MON CROSSFEED VALVE	1	.55	100				10	P
		OPEN LT OFF							10	
7C	14	MON CROSSFEED VALVE	1	.55	100				10	
		OPEN LT ON BRIGHT							10	
7C	15	MON CROSSFEED VALVE	1	.55	100				10	
		OPEN LT ON DIM							10	
7C	16	SET CROSSFEED SEL	1	2.79	100		100		10	P
		SW TO OPEN	2	2.02	100		100		10	P
7C	17	SET CROSSFEED SEL	1	2.79	100		100		10	
		SW TO CLOSED	2	2.02	100		100		10	
7C	18	SET ENG NO 1 FUEL HT	1	1.99	100		100		10	P
		SW TO ON							10	
7C	19	SET ENG NO.1 FUEL HT	1	1.99	100		100		10	
		SW TO OFF							10	
7C	20	MON CTR TANK LEFT	1	.89	100				10	
		FUEL PUMP LO PRESS	2	.55	100				10	
		LT ON							10	
7C	21	MON CTR TANK LEFT	1	.89	100				10	P
		FUEL PUMP LO PRESS	2	.55	100				10	P
		LT OFF							10	
7C	22	MON CTR TANK RIGHT	1	.55	100				10	
		FUEL PUMP LO PRESS	2	.89	100				10	
		LT ON							10	
7C	23	MON CTR TANK RIGHT	1	.55	100				10	
		FUEL PUMP LO PRESS	2	.89	100				10	
		LT OFF							10	
7C	24	SET CTR TANK LEFT	1	1.45	100		100		10	P
		FUEL PUMP SW TO ON	2	2.35	100		100		10	P
7C	25	SET CTR TANK LEFT	1	1.45	100		100		10	
		FUEL PUMP SW TO OFF	2	2.35	100		100		10	
			3	2.35	100	100			10	
			4	1.45	100	100			10	
7C	26	SET CTR TANK RIGHT	1	1.45	100		100		10	
		FUEL PUMP SW TO ON	2	2.35	100		100		10	
7C	27	SET CTR TANK RIGHT	1	1.45	100		100		10	
		FUEL PUMP SW TO OFF	2	2.35	100		100		10	
			3	1.45	100	100			10	
7C	28	MON TANK NO.1 AFT	1	.58	100				10	P
		FUEL PUMP LO PRESS	2	.95	100				10	
		LT ON							10	
7C	29	MON TANK NO.1 AFT	1	.58	100				10	
		FUEL PUMP LO PRESS	2	.95	100				10	
		LT OFF							10	

7C	30	SET TANK NO.1 AFT FUEL PUMP SW TO ON	1	1.97	100		100		10	
			2	1.59	100		100		10	
			3	2.35	100		100		10	7C
7C	31	SET TANK NO.1 AFT FUEL PUMP SW TO OFF	1	1.97	100		100		10	P
			2	1.59	100		100		10	P
			3	2.35	100	100			10	7C
			4	1.59	100		100		10	
7C	32	MON TANK NO.1 FWD FUEL PUMP LOW PRESS LT ON	1	.55	100				10	P
			2	.95	100				10	
									10	
7C	33	MON TANK NO.1 FWD FUEL PUMP LOW PRESS LT OFF	1	.55	100				10	
			2	.75	100				10	
									10	
7C	34	SET TANK NO.1 FWD FUEL PUMP SW TO ON	1	1.46	100		100		10	
			2	1.39	100		100		10	
7C	35	SET TANK NO.1 FWD FUEL PUMP SW TO OFF	1	1.46	100		100		10	P
			2	1.39	100		100		10	P
			3	1.39	100		100		10	
			4	1.39	100	100			10	7C
7C	36	MON TANK NO.2 FWD FUEL PUMP LOW PRESS LT ON	1	.54	100				10	P
			2	.98	100				10	
									10	
7C	37	MON TANK NO.2 FWD FUEL PUMP LOW PRESS LT OFF	1	.55	100				10	
			2	.95	100				10	
									10	
7C	38	SET TANK NO.2 FWD FUEL PUMP SW TO ON	1	1.45	100		100		10	
									10	
7C	39	SET TANK NO.2 FWD FUEL PUMP SW TO OFF	1	1.45	100		100		10	P
			2	1.45	100		100		10	
7C	40	MON TANK NO.2 AFT FUEL PUMP LOW PRESS LT ON	1	.58	100				10	P
			2	.95	100				10	
									10	
7C	41	MON TANK NO.2 AFT FUEL PUMP LOW PRESS LT OFF	1	.55	100				10	
			2	.95	100				10	
									10	
7C	42	SET TANK NO.2 AFT FUEL PUMP SW TO ON	1	1.56	100		100		10	
			2	1.45	100		100		10	
7C	43	SET TANK NO.2 AFT FUEL PUMP SW TO OFF	1	1.56	100		100		10	P
			2	1.56	100		100		10	
7C	44	MON ENG NO.1 FUEL VALVE CLOSED LT OFF	1	.55	100				10	
			2	.95	100				10	
7C	45	MON ENG NO.1 FUEL VALVE CLOSED LT ON BRIGHT	1	.55	100				10	
			2	.95	100				10	
									10	
7C	46	MON ENG NO.1 FUEL VALVE CLOSED LT ON DIM	1	.55	100				10	
			2	.95	100				10	
									10	
7C	47	MON ENG NO.1 FILTER ICING LT ON	1	.95	100				10	P
			2	.55	100				10	
7C	48	MON ENG NO.1 FILTER ICING LT OFF	1	.95	100				10	
			2	.55	100				10	
7C	49	MON ENG NO.1 VALVE OPEN LT OFF	1	.55	100				10	P
			2	.95	100				10	
7C	50	MON ENG NO.1 VALVE OPEN LT ON BRIGHT	1	.55	100				10	
			2	.95	100				10	
7C	51	MON ENG NO.1 VALVE OPEN LT ON DIM	1	.55	100				10	
			2	.95	100				10	
7C	52	MON ENG NO.2 FUEL VALVE CLOSED LT OFF	1	.55	100				10	
			2	.95	100				10	
7C	53	MON ENG NO.2 FUEL	1	.55	100				10	

		VALVE CLOSED LT ON	2	.95	100			10			
		BRIGHT						10			
7C	54	MON ENG NO.2 FUEL	1	.55	100			10			
		VALVE CLOSED LT ON	2	.95	100			10			
		DIM						10			
7C	55	MON ENG NO.2 FILTER	1	.55	100			10			
		ICING LT ON	2	.95	100			10			
7C	56	MON ENG NO.2 FILTER	1	.55	100			10			
		ICING LT OFF	2	.95	100			10			
7C	57	MON ENG NO.2 VALVE	1	.55	100			10			
		OPEN LT OFF	2	.95	100			10			
7C	58	MON ENG NO.2 VALVE	1	.55	100			10			
		OPEN LT ON BRIGHT	2	.95	100			10			
7C	59	MON ENG NO.2 VALVE	1	.55	100			10			
		OPEN LT ON DIM	2	.95	100			10			
7C	60	SET ENG NO.2 FUEL	1	1.62	100		100	10			P
		HT SW TO ON						10			
7C	61	SET ENG NO.2 FUEL	1	1.62	100		100	10			
		HT SW TO OFF						10			
7C	62	MON MASTER CAUTION	1	.73	100			10			P
		AND FUEL ANNUN LTS						10			
		ON						10			
7C	63	PRESS MASTER CAUT	1	2.02	100		100	10			P
		RESET SW						10			
7C	64	MON FUEL ANNUN LT ON	1	.56	100			10			P
7C	65	MON FUEL ANNUN LT	1	.56	100			10			
		OFF						10			
7C	66	PRESS ANNUN PNL	1	2.02	100			10			
		RECALL SW						10			
7C	67	CHECK ENG NO.1 FUEL	1	1.14	100			10			P
		HEAT SW OFF						10			
7C	68	CHECK ENG NO.2 FUEL	1	.83	100			10			P
		HEAT SW OFF						10			
7C	69	CHECK CROSSFEED	1	.81	100			10			P
		VALVE SW CLOSED						10			
7C	70	MON FUEL PUMP SWAS	1	1.59	100			10			P
		ALL SET TO ON						10			
		(6 SWITCHES)						10			
7C	71	MON FUEL PUMP SWAS	1	1.59	100			10			
		ALL SET TO OFF						10			
		6 SWITCHES'						10			
7C	72	PRESS FUEL QTY TEST	1	2.07	10	100		10			
		SW	2	2.07	10		100	10			
			3	6.20	5		100	10			
7D	01	MON DUCT PRESS INDIC	1	2.29	100			10			CP
7D	02	SET GASPER FAN SW TO	1	2.70	100	100		10			
		ON	2	2.70	100		100	10			
7D	03	SET GASPER FAN SW TO	1	2.70	100	100		10			
		OFF	2	2.70	100		100	10			
7D	04	ACTUATE WING BODY	1	2.20	100	100		10			
		OVRHT TEST SW						10			
7D	05	SET LEFT PACK SW	1	1.52	100	100		10			CP
		TO ON	2	2.49	100	100		10			CP
			3	1.52	100		100	10			
			4	2.69	100		100	10			
7D	06	SET LEFT PACK SW	1	1.52	100	100		10			
		TO OFF	2	2.49	100	100		10			
			3	2.65	100		100	10			
7D	07	SET LEFT PACK BLEED	1	2.00	100	100		10			CP
		SW TO ON						10			

7D	08	SET LEFT PACK BLEED SW TO OFF	1	2.00	100	100			10		CP
7D	09	MON LEFT PACK OFF LT ON	1	1.00	50				10		
7D	10	MON LEFT PACK OFF LT OFF	1	1.00	50				10		
7D	11	MON LEFT WING BODY OVRHT LT ON	1	1.00	50				10		CP
7D	12	MON LEFT WING BODY OVRHT LT OFF	1	1.00	50				10		
7D	13	MON LEFT BLEED TRIP OF LT ON	1	1.00	50				10		
7D	14	MON LEFT BLEED TRIP OFF LT OFF	1	1.00	50				10		
7D	15	SET LEFT ENG BLEED SW TO ON	1	2.40	100	100			10		
			2	1.53	100		100		10		
7D	16	SET LEFT ENG BLEED SW TO OFF	1	2.40					10		
			2	1.53					10		
7D	17	SET APU ENG BLEED SW TO ON	1	2.40	100	100			10		CP
			2	1.53	100		100		10		P
7D	18	SET APU ENG BLEED SW TO OFF	1	2.40	100	100			10		
			2	1.53	100		100		10		
7D	19	SET RIGHT PACK SW TO ON	1	2.60	100	100			10		CP
			2	1.52	100		100		10		
7D	20	SET RIGHT PACK SW TO OFF	1	2.60	100	100			10		
			2	2.00	100		100		10		
7D	21	MON RT PACK TRIP OFF LT ON	1	1.00	100				10		
7D	22	MON RT PACK TRIP OFF LT OFF	1	1.00	50				10		
7D	23	MON RT WING BODY OVRHT LT ON	1	1.00	50				10		
7D	24	MON RT WING BODY OVRHT LT OFF	1	1.00	50				10		
7D	25	MON RT BLEED TRIP OFF LT ON	1	1.00	50				10		
7D	26	MON RT BLEED TRIP OFF LT OFF	1	1.00	50				10		
7D	27	SET RT BLEED SW TO ON	1	2.60	100	100			10		
			2	1.53	100		100		10		
7D	28	SET RT BLEED SW TO OFF	1	2.60	100	100			10		
7D	29	ACTUATE PACK/BLEED/ DUCT OVRHT TRIP RESET SW	1	1.88	100	100			10		CP
7D	30	SET ISOLATION VALVE SW TO OPEN	1	1.85	100	100			10		CP
			2	1.77	100	100			10		
			3	1.53	100		100		10		P
7D	31	SET ISOLATION VALVE SW TO CLOSED	1	1.77	100	100			10		CP
			2	1.85	100	100			10		
			3	1.53	100		100		10		
7D	32	SET ISOLATION VALVE SW TO AUTO	1	1.77	100	100			10		
			2	1.85	100	100			10		
			3	1.53	100		100		10		
7D	33	MON DUAL BLEED LT ON	1	.28	100				10		
7D	34	MON DUAL BLEED LT OFF	1	.28	100				10		
7D	35	MON LEFT RAM DOOR FULL OPEN LT ON	1	.28	100				10		
7D	36	MON LEFT RAM DOOR	1	.28	100				10		

		FULL OPEN LT OFF								10	
7D	37	MON F OUTFLOW CLOSED LT ON	1	.27	100					10	P
7D	38	MON F OUTFLOW CLOSED LT OFF	1	.27	100					10	
7D	39	MON RT RAM DOOR FULL OPEN LT ON	1	.28	100					10	P
7D	40	MON RT RAM DOOR FULL OPEN LT OFF	1	.28	100					10	
7D	41	SET AIR TEMP SOURCE SEL SW TO SUPPLY DUCT	1	3.21	100	100				10	CP
			2	3.21	100		100			10	
7D	42	SET AIR TEMP SOURCE SEL SW TO PASS CABIN	1	3.21	100	100				10	
7D	43	MON TEMP INDIC	1	2.69	100					10	P
			2	2.72	100					10	CP
			3	1	100					10	
7D	44	MON CONT CABIN AIR MIX VALVE INDIC	1	2.07	100					10	CP
			2	2.01	100					10	P
7D	45	MON PASS CABIN AIR MIX VALVE INDIC	1	2.05	100					10	CP
			2	2.02	100					10	P
			3	2.14	100					10	P
7D	46	MON CONT CAB DUCT OVHT LT ON	1	.97	100					10	CP
			2	.94	100					10	P
7D	47	MON CONT CAB DUCT OVHT LT OFF	1	.97	100					10	
			2	.94	100					10	
7D	48	MON PASS CAB DUCT OVHT LT ON	1	.94	100					10	F
7D	49	MON PASS CAB DUCT OVHT LT OFF	1	.94	100					10	
7D	50	SET CONT CABIN TEMP SEL SW TO AUTO AND ADJUST TEMP	1	3.23	100	100				10	CP
			2	2.12	100	100				10	
			3	2.12	100		100			10	
7D	51	SET CONT CABIN TEMP SEL SW TO OFF	1	3.23	100	100				10	
			2	2.12	100	100				10	
7D	52	SET CONT CABIN TEMP SEL SW TO COOL	1	3.23	100	100				10	
			2	2.12	100	100				10	
7D	53	SET CONT CABIN TEMP SEL SW TO WARM	1	3.23	100	100				10	
			2	2.12	100	100				10	
7D	54	SET PASS CABIN TEMP SEL SW TO AUTO AND ADJUST TEMP	1	2.12	100	100				10	CP
			2	3.23	100	100				10	CP
			3	2.12	100		100			10	
7D	55	SET PASS CABIN TEMP SEL SW TO OFF	1	3.23	100	100				10	
			2	2.12	100	100				10	
7D	56	SET PASS CABIN TEMP SEL SW TO COOL	1	3.23	100	100				10	
			2	2.12	100	100				10	
7D	57	SET PASS CABIN TEMP SEL SW TO WARM	1	3.23	100	100				10	
			2	2.12	100	100				10	
7L	58	MON MASTER CAUTION AND AIR COND ANNUN LTS ON	1	.70	100	100				10	CP
			2	.54	100	100				10	CP
7D	59	ACTUATE MASTER CAUT RESET SW	1	2.14	100	100				10	CP2
7D	60	MON AIR COND ANNUN LT ON	1	.54	100					10	CP
7D	61	MON AIR COND ANNUN LT OFF	1	.54	100					10	
7D	62	ACTUATE ANNUN PNL RECALL SW	1	2.14	100	100				10	
7D	63	CHECK THAT ISOLATION	1	1.35	100					10	P

		VALVE SW IS SET TO AUTO							10	
7D	64	CHECK THAT ENG NO.1 BLEED SW IS SET TO ON	1	1.31	100				10	P
7D	65	CHECK THAT ENG NO.2 BLEED SW IS SET TO ON	1	.77	100				10	P
7D	66	CHECK THAT APU BLEED SW IS SET TO ON	1	.77	100				10	
7D	67	MON LEFT PACK SW SET TO ON	1	1.35	100				10	P
7D	68	MON RT PACK SW SET TO OFF	1	.77	100				10	P
7D	69	MON PASS CAB TEMP CONT SETTING	1	2.67	100				10	P
7D	70	MON CONT CAB TEMP CONT SETTING	1	2.02	100				10	P
7E	01	MON CABIN ALT INDIC	1	1.27	100				10	P
			2	.7	100				10	
7E	02	MON CABIN RATE OF CLIMB INDIC	1	2.41	100				10	CP
			2	2.05	100				10	P
			3	2.47	100				10	P
7E	03	MON ALTITUDE WARNING HORN							10	
7E	04	ACTUATE ALT HORN CUTOUT SW	1	2.28	100	100			10	CP
			2	2.42	100		100		10	P
7E	05	SET FLT ALT CONT	1	2.50	20				10	P
7E	06	MON FLT ALT CNTR	1	1.17	90				10	
			2	2.5	80				10	
7E	07	SET LDG ALT CNTR	1	2.10	20				10	CP
			2	2.10	20				10	
7E	08	MON LDG ALT CNTR	1	1.17	90				10	P
7E	09	SET CABIN ALT CNTR	1	2.79	20				10	CP
			2	2.79	20				10	
7E	10	MON CABIN ALT CONTR	1	1.17	90				10	
			2	.88	100				10	
7E	11	ADJUST CABIN RATE-OF CLIMB CONT	1	2.13	100	100			10	CP
			2	2.13	100		100		10	
7E	12	MON OUTFLOW VALVE INDIC	1	2.34	100				10	CP
			2	2.10	100				10	CP
			3	2.03	100				10	CP
			4	.65	100				10	
7E	13	SET OUTFLOW VALVE SW TO CLOSE	1	2.21	100	100			10	CP
7E	14	SET OUTFLOW VALVE SW TO OPEN	1	2.21	100	100			10	
7E	15	SET FLT/GRD SW TO FLT	1	2.69	100	100			10	
			2	2.86	100	100			10	
			3	3.06	100		100		10	
7E	16	SET FLT/GRD SW TO GRD	1	2.69	100	100			10	CP
			2	2.69	100		100		10	
			3	2.86	100	100			10	
			4	3.00	100		100		10	
7E	17	SET PRESS MODE SEL SW TO CHECK	1	2.65	100	100			10	CP
7E	18	SET PRESS MODE SEL SW TO AUTO	1	2.65	100	100			10	
			2	2.63	100		100		10	
7E	19	SET PRESS MODE SEL SW TO STDBY	1	2.65	100	100			10	

7E	20	SET PRESS MODE SEL SW TO MAN-AC	1	2.65	100	100			10	
7E	21	SET PRESS MODE SEL SW TO MAN-DC	1	2.65	100	100			10	
7E	22	MON AUTO FAIL LT ON	1	.97	100				10	CP
7E	23	MON AUTO FAIL LT OFF	1	.97	100				10	
7E	24	MON OFF SCHED DESCENT LT ON	1	1.33	100				10	CP
7E	25	MON OFF SCHED DESCENT LT OFF	1	1.33	100				10	
7E	26	MON STDBY LT ON	1	.66	100				10	CP
			2	.60	100				10	CP
7E	27	MON STDBY LT OFF	1	.66	100				10	
			2	.60	100				10	
7E	28	MON MANUAL LT ON	1	.65	100				10	CP
7E	29	MON MANUAL LT OFF	1	.65	100				10	
7E	30	MON MASTER CAUTION AND AIR COND ANNUN LTS ON	1	.70	100				10	
			2	.54	100				10	
7E	31	PRESS MASTER CAUTION RESET SW	1	2.14	100	100			10	
7E	32	MON AIR COND ANNUN LT ON	1	.54	100				10	
7E	33	MON AIR COND ANNUN LT OFF	1	.54	100				10	
7E	34	PRESS ANNUN PNL RESET SW	1	2.14	100	100			10	
7E	35	MON FLT/GRD SW SET TO FLIGHT	1	.54	100				10	
7E	36	MON FLT/GRD SW SET TO GROUND	1	.54	100				10	
7E	37	MON CABIN PRESS INDC	1	.7	100				10	
7F	01	SET ENG VIB PICKUP SW TO TURB	1	1.91	100	100			10	CP
7F	02	SET ENG VIB PICKUP SW TO INLET	1	1.91	100	100			10	
7F	03	PRESS ENG VIB TEST SW	1	1.44	10	100			10	
			2	2.10	10	100			10	
			3	5.48	10		100		10	
7F	04	PRESS OIL QTY TEST SW	1	1.36	10	100			10	
			2	2.02	10	100			10	
			3	1.36	10		100		10	
			4	4.25	10		100		10	
7F	05	MON NO 1 ENG LO OIL PRESS LT ON	1	.83	100				10	CP
7F	06	MON NO 1 ENG LO OIL PRESS LT OFF	1	.83	100				10	
7F	07	MON NO 1 ENG OIL FILTER BYPASS LT ON	1	.83	100				10	
7F	08	MON NO 1 ENG OIL FILTER BYPASS LT OFF	1	.83	100				10	
7F	09	MON NO 1 ENG OIL PRESS INDIC	1	2.05	80				10	CP
			2	2.25	80				10	CP
			3	.44	50				10	
7F	10	MON NO 1 ENG OIL TEMP INDIC	1	2 05	80				10	
			2	2.25	80				10	
			3	2.28	100				10	CP
			4	.44	50				10	
7F	11	MON NO 1 ENG OIL QTY	1	2.05	100				10	

		INDIC	2	2.25	100			10	
			3	.44	50			10	
7F	12	MON NO 1 ENG VIBRA-	1	2.05	90			10	
		TION AMPLITUDE INDIC	2	2.25	90			10	
			3	2.02	90			10	CP
			4	.44	50			10	
7F	13	MON NO 2 ENG LO OIL	1	.83	100			10	
		PRESS ANNUN LT ON						10	
7F	14	MON NO 2 ENG LO OIL	1	.83	100			10	
		PRESS ANNUN LT OFF						10	
7F	15	MON NO 2 ENG OIL	1	.83	100			10	
		FILTER BYPASS ANNUN						10	
		LT ON						10	
7F	16	MON NO 2 ENG OIL	1	.83	100			10	
		FILTER BYPASS ANNUN						10	
		LT OFF						10	
7F	17	MON NO 2 ENG OIL	1	2.05	100			10	
		PRESS INDIC	2	2.25	100			10	
			3	.44	50			10	
7F	18	MON NO 2 ENG OIL	1	2.05	100			10	
		TEMP INDIC	2	2.25	100			10	
			3	2.02	100			10	CP
			4	.44	50			10	
7F	19	MON NO 2 ENG OIL	1	2.05	100			10	
		QTY INDIC	2	2.25	100			10	
			3	2.08	100			10	CP
			4	.44	50			10	
7F	20	MON NO 2 ENG VIBR	1	2.05	90			10	
		AMPLITUDE INDIC	2	2.25	90			10	
			3	2.02	90			10	CP
			4	.44	50			10	
7F	21	MON NO 1 ENG N1 IND	1	2.02	100			10	20C
			2	2.52	100			10	
			3	.44	50			10	
7F	22	MON NO 2 ENG N1 IND	1	2.02	100			10	20C
			2	2.52	100			10	
			3	.44	50			10	
7F	23	MON NO 1 ENG N2 IND	1	2.02	100			10	C
			2	2.52	100			10	CP
			3	10.	100			10	
			4	.44	50			10	
7F	24	MON NO 2 ENG N2 IND	1	2.02	100			10	C
			2	2.52	100			10	
			3	10.	100			10	
			4	.44	50			10	
7F	25	MON ENG NO 1 EPR IND	1	2.24	100			10	
			2	2.02	100			10	
			3	30	5			5	P
			4	.44	50			10	
7F	26	SET ENG NO 1 EPR BUG	1	5	20	100		10	
			2	5	20		100	10	
			3	2.32	20		100	10	
			4	2.32	20	100		10	
7F	27	MON ENG NO 1 EPR BUG	1	2.00	80			10	
			2	.76	50			10	
7F	28	SET ENG NO 2 EPR BUG	1	5.00	20	100		10	
			2	5.00	20		100	10	
			3	2.32	20		100	10	
			4	2.32	20	100		10	
7F	29	MON ENG NO 2 EPR BUG	1	2.00	80			10	

			2	.76	50			10		
7F	30	MON ENG NO 2 EPR IND	1	2.24	100			10		
			2	2.02	100			10		
			3	.44	50			10		
			4	30	5			5		
7F	31	MON ENG NO 1 EXH GAS TEMP IND	1	2.02	100			10		C
			2	.44	50			10		
			3	30	5			5		
7F	32	MON ENG NO 2 EXH GAS TEMP IND	1	2.02	100			10		C
			2	.44	50			10		
			3	30	5			5		
7F	33	MON ENG NO 1 FUEL FLOW INDIC	1	2.02	100			10		C
			2	.44	50			10		
			3	30	5			5		
7F	34	MON ENG NO 2 FUEL FLOW INDIC	1	2.02	100			10		C
			2	.44	50			10		
			3	30	5			5		
7G	01	SET NO SMOKING LT SW TO ON	1	1.80	100		100	10		P
			2	2.71	100		100	10		
7G	02	SET NO SMOKING LT SW TO AUTO	1	1.80	100		100	10		
			2	2.71	100		100	10		
7G	03	SET NO SMOKING LT SW TO OFF	1	1.80	100		100	10		
			2	2.71	100		100	10		
7G	04	SET FASTEN SEAT BELT LT SW TO ON	1	1.71	100		100	10		P
								10		
7G	05	SET FASTEN SEAT BELT LT SW TO AUTO	1	1.71	100		100	10		
								10		
7G	06	SET FASTEN SEAT BELT LT SW TO OFF	1	1.71	100		100	10		
			2	1.71	100	100		10		
7G	07	ADJUST PANEL LTS BRIGHTNESS CONTROL	1	2.17	100		100	10		CP
			2	2.10	100		100	10		P
			3	2.73	100		100	10		P
7G	08	ADJUST BACKGROUND LTS BRIGHTNESS CONT	1	2.08	100		100	10		P
								10		
7G	09	ADJUST CIRCUIT BRKR LTS BRIGHTNESS CONT	1	3.31	100		100	10		P
			2	1.50	100		100	10		
7G	10	SET DOME LT SW TO DIM	1	3.43	100		100	10		P
								10		
7G	11	SET DOME LT SW TO OFF	1	3.43	100		100	10		
								10		
7G	12	SET DOME LT SW TO BRIGHT	1	3.43	100		100	10		
								10		
7G	13	ADJUST FLOOD LT BRIGHTNESS CONT	1	2.09	100		100	10		P
								10		
7G	14	ADJUST CONTROL STAND PANEL LTS BRIGHTNESS CONT	1	3.13	100		100	10		P
								10		
								10		
7G	16	SET LANDING LTS SW TO OFF	1	2.20	100		100	10		P
			2	1.50	100	100		10		
7G	17	SET LANDING LIGHTS SW TO ON	1	2.20	100		100	10		
			2	2.20	100	100		10		
7G	18	SET RUNWAY TURNOFF LTS SW TO ON	1	2.25	100		100	10		P
								10		
7G	19	SET RUNWAY TURNOFF LTS SW TO OFF	1	2.25	100		100	10		
								10		
7G	20	SET TAXI LTS SW TO ON	1	2.42	100		100	10		P
								10		
7G	21	SET TAXI LTS SW TO OFF	1	2.42	100		100	10		
								10		
7G	22	SET POSITION LTS SW	1	2.42	100		100	10		P

		TO ON BAT							10	
7G	23	SET POSITION LTS SW	1	2.42	100		100		10	
		TO OFF							10	
7G	24	SET POSITION LTS SW	1	2.42	100		100		10	
		TO ON	2	1.50	100		100		10	
7G	25	SET ANTI-COLLISION	1	2.44	100		100		10	P
		LTS SW TO OFF	2	2.44	100	100			10	
7G	26	SET ANTI-COLLISION	1	2.44	100		100		10	
		LTS SW TO OFF	2	2.44	100	100			10	
7G	27	SET WING LTS SW TO	1	2.47	100		100		10	P
		ON							10	
7G	28	SET WING LTS SW TO	1	2.47	100		100		10	
		OFF							10	
7G	29	SET WHEEL WELL LTS	1	2.48	100		100		10	P
		SW TO ON							10	
7G	30	SET WHEEL WELL LTS	1	2.48	100		100		10	
		SW TO OFF							10	
7G	31	SET LTS TEST SW TO	1	2.35	100		100		10	P
		TEST	2	10	10		100		10	
7G	32	SET LTS TEST SW TO	1	2.35	100		100		10	
		DIM							10	
7G	33	SET LTS TEST SW TO	1	2.35	100		100		10	
		OFF							10	
7G	34	SET EMER EXIT LTS	1	1.90	100		100		10	P
		SW TO OFF	2	1.99	100		100		10	P
			3	1.90	100	100			10	
7G	35	SET EMER EXIT LTS	1	1.90	100		100		10	
		SW TO ARMED	2	1.99	100		100		10	
7G	36	SET EMER EXIT LTS	1	1.90	100		100		10	
		SW TO ON	2	1.99	100		100		10	
7G	37	MON EMER EXIT LTS	1	.54	100				10	P
		NOT ARMED LT ON							10	
7G	38	MON EMER EXIT LTS	1	.54	100				10	
		NOT ARMED LT OFF							10	
7G	40	MON MASTER CAUTION	1	.20	100	100			10	
		AND OVHD ANNUN LTS	2	.54	100	100			10	
		ON							10	
7G	41	PRESS MASTER CAUT	1	2.14	100	100			10	
		RESET SW							10	
7G	42	MON OVHD ANNUN LT ON	1	.54	100				10	
7G	43	MON OVHD ANNUN LT	1	.54	100				10	
		OFF							10	
7G	44	PRESS ANNUN PNL	1	2.14	100	100			10	
		RECALL SW							10	
7G	46	MON INSTRUMENT LTS	1	10	90				10	
		ILLUMINATED BY LT							10	
		TEST SW							10	
7G	47	MON INST LTS DIMMED							10	
		WHEN LT TEST SW SET							10	
		TO DIM							10	
7G	48	MON SEAT BELT AND NO	1	1.27	100				10	P
		SMOKING LTS SWBS SET							10	
		TO AUTO							10	
7G	49	MON EMER EXIT LT SW	1	1.28	100				10	
		SET TO OFF							10	
7G	50	MON SEAT BELT LT SW	1	1.28	100				10	P
		SET TO OFF							10	
7G	51	MON SEAT BELTS, NO	1	1.27	100				10	
		SMOKING SWS SET ON							10	
7H	01	MON FLT CREW OXY	1	2.81	100				10	CP

		PRESS INDIC							10	
7H	02	MON PASS OXY PRESS INDIC	1	2.03	100				10	CP
7H	03	MON PASS OXY ON LT ON	1	1.59	100				10	CP
7H	04	MON PASS OXY ON LT OFF	1	1.59	100				10	
7H	05	SET PASS OXY SW TO ON	1	3.29	100		100		10	CP
7H	06	SET PASS OXY SW TO NORMAL	1	3.29	100		100		10	
7H	07	ACTUATE CREW OXY SHUTOFF VALVE	1	1.40	100		100		10	
7H	08	SET OXY EMERGENCY LEVER TO ON	1	1.30	100		100		10	
7H	09	SET OXY EMERGENCY LEVER TO OFF	1	1.30	100		100		10	
7H	10	SET OXY DILUTER LEVER TO NORMAL	1	1.40	100		100		10	
7H	11	SET OXY DILUTER LEVER TO 100 PCT	1	1.40	100		100		10	
7H	12	MON OXY FLOW INDIC	1	1.5	100				10	
7H	13	SET OXY SUPPLY SW TO ON	1	1.40	100		100		10	
7H	14	SET OXY SUPPLY SW TO OFF	1	1.40	100		100		10	
7H	15	OPEN EMERGENCY OXY MAN ACTUATION ACCESS DOOR							10	
7H	16	PULL EMERGENCY OXY MAN ACTUATION HANDLE							10	
7H	17	POT ON OXY MASK	1	4.0	100	100	100		10	
7H	18	TAKE OFF OXY MASK AND STOW	1	4.0	100	100	100		10	
7H	19	CHECK PORTABLE OXY BOTTLE PRESS AND MASK	1	5.0	100	100	100		10	
7H	20	SET CREW OXY VALVE TO OPEN	1	2.0	100		100		10	
7H	21	MON PASS OXY QTY INDIC	1	2.0	100				10	
7H	22	INHALE AND CHECK THAT NO AIR OR OXY IS SUPPLIED	1	4.0	100				10	
7H	23	INHALE AND CHECK THAT COCKPIT AIR IS SUPPLIED	1	4.0	100				10	
7H	24	INHALE AND CHECK THAT OXY IS SUPPLIED	1	4.0	100	100			10	
7H	25	INHALE AND CHECK THAT CONSTANT OXY PRESSURE SUPPLIED	1	4.0	100	100			10	
7J	01	SET WING ANTI-ICE SW TO GRD TEST	1	1.79	100	100			10	CP
			2	2.76	100	100			10	
7J	02	SET WING ANTI-ICE SW TO ON	1	1.79	100	100			10	
			2	2.76	100	100			10	
7J	03	SET WING ANTI-ICE SW TO OFF	1	1.79	100	100			10	
			2	2.76	100	100			10	
			3	1.79	100		100		10	
7J	04	MON WING ANTI-ICE	1	.56	100				10	CP

		L VALVE OPEN LT ON	2	.53	100			10	CP
7J	05	MON WING ANTI-ICE	1	.56	100			10	
		L VALVE OPEN LT OFF	2	.53	100			10	
7J	06	MON WING ANTI-ICE	1	.56	100			10	
		R VALVE OPEN LT ON	2	.53	100			10	
7J	07	MON WING ANTI-ICE	1	.56	100			10	
		R VALVE OPEN LT OFF	2	.53	100			10	
7J	08	SET ENG NO.1 ANTI-	1	1.49	100	100		10	CP
		ICE SW TO ON	2	2.76	100	100		10	
			3	1.68	100	100		10	CP
7J	09	SET ENG NO.1 ANTI-	1	1.50	100	100		10	
		ICE SW TO OFF	2	2.76	100	100		10	CP
			3	1.68	100	100		10	CP
			4	1.50	100		100	10	
7J	10	SET ENG NO.2 ANTI-	1	1.50	100	100		10	CP
		ICE SW TO ON	2	2.76	100	100		10	
			3	2.01	100	100		10	CP
7J	11	SET ENG NO.2 ANTI-	1	1.50	100	100		10	
		ICE SW TO OFF	2	2.76	100	100		10	
			3	2.01	100	100		10	
			4	1.50	100		100	10	
7J	12	MON ENG NO.1 L VALVE	1	.54	100			10	CP
		OPEN LT ON						10	
7J	13	MON ENG NO.1 L VALVE	1	.54	100			10	
		OPEN LT OFF						10	
7J	14	MON ENG NO.1 R VALVE	1	.54	100			10	CP
		OPEN LT ON						10	
7J	15	MON ENG NO.1 R VALVE	1	.54	100			10	
		OPEN LT OFF						10	
7J	16	MON ENG NO.1 COWL	1	.54	100			10	
		VALVE OPEN LT ON						10	
7J	17	MON ENG NO.1 COWL	1	.54	100			10	
		VALVE OPEN LT OFF						10	
7J	18	MON ENG NO.2 L VALVE	1	.54	100			10	
		OPEN LT ON						10	
7J	19	MON ENG NO.2 L VALVE	1	.54	100			10	CP
		OPEN LT OFF						10	
7J	20	MON ENG NO.2 R VALVE	1	.54	100			10	
		OPEN LT ON						10	
7J	21	MON ENG NO.2 R VALVE	1	.54	100			10	
		OPEN LT OFF						10	
7J	22	MON ENG NO.2 COWL	1	.54	100			10	
		VLAVE OPEN LT ON						10	
7J	23	MON ENG NO.2 COWL	1	.54	100			10	
		VALVE OPEN LT OFF						10	
7J	24	SET PITOT STATIC SYS	1	2.75	100	100		10	CP
		A HT SW TO ON	2	1.42	100	100		10	CP
			3	1.42	100		100	10	
7J	25	SET PITOT STATIC SYS	1	2.75	100	100		10	
		A HT SW TO OFF	2	1.42	100	100		10	
			3	1.42	100		100	10	
7J	26	SET PITOT STATIC SYS	1	2.75	100	100		10	
		B HT SW TO ON	2	1.42	100	100		10	
			3	1.42	100		100	10	
7J	27	SET PITOT STATIC SYS	1	2.75	100	100		10	
		B HT SW TO OFF	2	1.42	100	100		10	
			3	1.42	100		100	10	
7J	28	MON CAPT PITOT HTR	1	1.13	100			10	CP
		LT ON	2	1	50			10	
7J	29	MON CAPT PITOT HTR	1	1.13	100			10	

		LT OFF								10	
7J	30	MON CAPT STATIC 1	1	1.13	100					10	
		AUX P/S HTF LT ON	2	1	50					10	
7J	31	MON CAPT STATIC 1	1	1.13	100					10	
		AUX P/S HTR LT OFF								10	
7J	32	MON L ELEV PITOT HTR	1	1.13	100					10	
		LT ON	2	1	50					10	
7J	33	MON L ELEV PITOT HTR	1	1.13	100					10	
		LT OFF								10	
7J	34	MON F/O PITOT HTR	1	1.14	100					10	CP
		LT ON	2	1	50					10	
7J	35	MON F/O PITOT HTR	1	1.14	100					10	
		LT OFF								10	
7J	36	MON F/O STATIC 2	1	1.14	100					10	
		AUX P/S HTR LT ON	2	1	50					10	
7J	37	MON F/O STATIC 2	1	1.14	100					10	
		AUX P/S HTR LT OFF								10	
7J	38	MON R ELEV PITOT	1	1.14	100					10	
		HTR LT ON	2	1	50					10	
7J	39	MON R ELEV HTR LT	1	1.14	100					10	
		OFF								10	
7J	40	MON MASTER CAUTIONAND	1	.70	100	100				10	
		ANTI-ICE ANNUN LTS	2	.54	100	100				10	
		ON								10	
7J	41	PRESS MASTER CAUTION	1	2.14	100	100				10	
		RESET SW								10	
7J	42	MON ANTI-ICE ANNUN	1	.54	100					10	
		LT ON								10	
7J	43	MON ANTI-ICE ANNUN	1	.54	100					10	
		LT OFF								10	
7J	44	PRESS ANNUN PNL	1	2.14	100	100				10	
		RECALL SW								10	
7J	45	MON PITOT STATIC SYS	1	1.47	100					10	P
		A HT SW SET TO ON								10	
7J	46	MON PITOT STATIC SYS	1	.75	100					10	P
		B HT SW SET TO ON								10	
7J	47	MON PITOT STATIC SYS	1	1.47	100					10	P
		A HT SW SET TO OFF								10	
7J	48	MON PITOT STATIC SYS	1	.75	100					10	P
		B HT SW SET TO OFF								10	
7J	49	MON ENG 1 ANTI-ICE	1	1.42	100					10	P
		SW TO OFF								10	
7J	50	MON ENG 2 ANTI-ICE	1	.76	100					10	P
		SW SET TO OFF								10	
7K	01	PUSH L RAIN REPEL SW	1	2.31	100		100			10	P
7K	02	PUSH R RAIN REPEL SW	1	1.38	100		100			10	P
7K	03	SET WINDSHIELD WIPER	1	2.37	80		100			10	
		SEL SW TO OFF								10	
7K	04	SET WINDSHIELD WIPER	1	2.37	80		100			10	
		SEL SW TO LOW								10	
7K	05	SET WINDSHIELD WIPER	1	2.37	80		100			10	
		SEL SW TO HIGH								10	
7K	06	SET WINDSHIELD WIPER	1	2.37	80		100			10	
		SEL SW TO PARK								10	
7K	07	SET WINDOW HEAT SWS	1	4.22	100	100				10	CP
		TO ON								10	
7K	08	SET WINDOW HEAT SWS	1	4.22	100	100				10	
		TO OFF								10	
7K	09	MON RAIN REPELLANT	1	2.0	100					10	
		QTY INDIC								10	

7K	10	CHECK WINDSHIELD WIPER SWS SET TO OFF	1	1.19	100			10		P
7K	11	MON WINDOW HEAT ON LTS GREEN	1	1.14	100			10		CP
7K	12	MON WINDOW HEAT ON LTS OFF	1	1.14	100			10		
7K	13	MON WINDOW OVRHT LTS ON	1	1.81	100			10		CP
7K	14	MON WINDOW OVRHT LTS OFF	1	1.81	100			10		
7K	15	ACT WINDOW OVRHT TEST SW	1	2.04	100			10		CP
7K	16	SET WINDOW HT SW OFF	1	1.2	20		100	10		
7L	01	MON APU EXHAUST TEMP GAGE INDIC	1	2.09	100			10		P
7L	02	MON APU AC AMPS IND	1	2.09	100			10		
			2	2.41	100			10		P
7L	03	MON APU LOW OIL QTY LT ON	1	.85	100			10		P
7L	04	MON APU LOW OIL QTY LT OFF	1	.85	100			10		
7L	05	MON APU LOW OIL PRESS LT ON	1	.54	100			10		P
7L	06	MON APU LOW OIL PRESS LT OFF	1	.54	100			10		
7L	07	MON APU HIGH OIL TEMP LT ON	1	.54	100			10		P
7L	08	MON APU HIGH OIL TEMP LT OFF	1	.54	100			10		
7L	09	MON APU OVRSPD LT ON	1	.54	100			10		P
7L	10	MON APU OVRSP LT OFF	1	.54	100			10		
7L	11	SET APU SW TO OFF	1	3.59	100		100	10		P
			2	2.73	100		100	10		P
			3	2.57	100		100	10		P
			4	2.29	100		100	10		P
7L	12	SET APU SW TO ON	1	3.59	100		100	10		
			2	2.73	100		100	10		
			3	2.57	100		100	10		
			4	2.29	100		100	10		
7L	13	SET APU SW TO START-MOMENTARY ACTION	1	3.59	100		100	10		
			2	2.73	100		100	10		
			3	2.57	100		100	10		
			4	2.29	100		100	10		
7L	14	MON MASTER CAUTION AND APU ANNUN LTS ON	1	.73	100			10		
7L	15	PRESS MASTER CAUTION RESET SW	1	2.14	100	100		10		
7L	16	MON APU ANNUN LT ON	1	.54	100			10		
7L	17	MON APU ANNUN LT OFF	1	.54	100			10		
7L	18	PRESS ANNUN RNL RECALL SW	1	2.14	100	100		10		
7L	19	OPEN CB C6 ON P6-5 PANEL	1	5.	100		100	10		
7L	20	MON APU START SW SET TO OFF	1	.75	100			10		
7L	21	SET APU START SW TO OFF	1	1.5	100	100		10		
7L	22	SET APU START SW ON	1	2.29	50	100		10		

7L	23	MON APU WARN LTS	1	.88	100			10		
7M	01	SET ENG NO.1 START	1	3.0	80		100	10		
		SW TO OFF	2	2.43	80		100	10		
			3	3.54	80		100	10		P
			4	1.74	80		100	10		P
7M	02	SET ENG NO.1 START	1	3.0	80		100	10		
		SW TO GRD	2	2.43	80		100	10		
			3	3.54	80		100	10		
			4	1.74	80		100	10		
7M	03	SET ENG NO.1 START	1	3.0	80		100	10		
		SW TO FLT	2	2.43	80		100	10		
			3	3.54	80		100	10		
			4	1.74	80		100	10		
7M	04	SET ENG NO.2 START	1	3.0	80		100	10		
		SW TO OFF	2	2.43	80		100	10		
			3	3.54	80		100	10		
			4	1.74	80		100	10		
7M	05	SET ENG NO.2 START	1	3.0	80		100	10		
		SW TO GRD	2	2.43	80		100	10		
			3	3.54	80		100	10		
			4	1.74	80		100	10		
7M	06	SET ENG NO.2 START	1	3.0	80		100	10		
		SW TO FLT	2	2.43	80		100	10		
			3	3.54	80		100	10		
			4	1.74	80		100	10		
7M	07	SET ENG NO 1 START	1	2.51	50		100	10		
		LEVER TO START						10		
7M	08	SET ENG NO 1 START	1	3.00	50		100	10		
		LEVER TO CUTOFF	2	2.80	50	100		10		
			3	3.24	50		100	10		
			4	3.24	50	100		10		
7M	09	SET ENG NO 2 START	1	2.51	50		100	10		
		LEVER TO START						10		
7M	10	SET ENG NO 2 START	1	3.24	50		100	10		
		LEVER TO CUTOFF	2	2.51	50		100	10		
			3	2.51	50	100		10		
7M	11	MON ENG START SWDS	1	.52	100			10		
		IN FLT POS						10		
7M	12	CHECK ENG NO.1 START	1	2.41	100			10		P
		SW SET TO OFF	2	1.50	100			10		
7M	13	CHECK THAT ENG NO.2	1	2.02	100			10		P
		START SW SET TO OFF	2	.78	100			10		
7M	14	CHECK THAT ENG START	1	1.30	100			10		P
		LEVERS IN OFF POS	2	.78	100			10		P
7M	15	MON ENG 2 START LVR	1	1.30	100			10		
		AUTOMATICALLY MOVED	2	.78	100			10		
		TO OFF						10		
7M	16	MON ENG 1 START LVR	1	1.30	100			10		
		AUTOMATICALLY MOVED	2	.78	100			10		
		TO OFF						10		
7M	17	SET ENG NO.1 START	1	2.50	100	100		10		
		SET TO OFF						10		
7M	18	SET ENG NO.2 START	1	1.50	100	100		10		
		SW TO OFF						10		
7P	01	SET ENG NO.1 OVRHT	1	2.46	100		100	10		P
		DETEC SW TO NORMAL						10		
7P	02	SET ENG NO.1 OVRHT	1	2.46	100		100	10		
		DETEC SW TO FIRE						10		
7P	03	SET ENG NO.2 OVRHT	1	1.63	100		100	10		P
		DETEC SW TO NORMAL						10		

7P	04	SET ENG NO.2 OVRHT DETEC SW TO FIRE	1	1.63	100	100	10	10		
7P	05	MOV ENG NO.1 OVRHT LT ON	1	.90	100		10	10		P
			2	.54	100		10			
7P	06	MON ENG NO.1 OVRHT LT OFF	1	.90	100		10	10		
			2	.54	100		10			
7P	07	MON ENG NO.2 OVRHT LT ON	1	.90	100		10	10		
			2	.54	100		10			
7P	08	MON ENG NO.2 OVRHT LT OFF	1	.90	100		10	10		
			2	.54	100		10			
7P	09	SET OVRHT TEST SW TO OVRHT	1	2.20	100	100	10	10		
			2	1.62	100	100	10			
7P	10	SET OVRHT TEST SW TO FIRE	1	.50	100	100	10	10		
7P	11	ACTUATE EXT TEST SW	1	1.63	25	100	10	10		P
7P	12	MON EXT TEST LTS ON	1	.54	75		10	10		P
7P	13	MON WHEEL WELL FIRE WARNING LT ON	1	1.24	100		10	10		P
7P	14	MON WHEEL WELL FIRE WARNING LT OFF	1	1.24	100		10	10		
7P	15	MON ENG NO.1 FIRE WARNING LT ON	1	.91	100		10	10		P
			2	.54	100		10			
			3	2.57	100		10			P
			4	5.0	100		10		7P	
7P	16	MON ENG NO.1 FIRE WARNING LT OFF	1	.91	100		10	10		
			2	.54	100		10			
			3	15.	100		10		7P	
7P	17	PULL ENG NO.1 FIRE WARNING SW HANDLE UP	1	1.87	100	100	10	10		P
			2	1.87	100	100	10		7P	
		WARNING SW HANDLE UP						10		
7P	18	ROTATE ENG NO.1 FIRE WARNING SW HANDLE TO LEFT	1	2.13	100	100	10	10		P
			2	2.13	100	100	10		7P	
								10		
7P	19	ROTATE ENG NO.1 FIRE WARNING SW HANDLE TO RIGHT	1	2.33	100	100	10	10		P
								10		
7P	20	ACTUATE ENG NO.1 FIRE WARNING OVERRIDE SW						10		
								10		
								10		
7P	21	MON ENG NO.2 FIRE WARNING LT ON	1	.80	100		10	10		P
			2	.54	100		10			
7P	22	MON ENG NO.2 FIRE WARNING LT OFF	1	.54	100		10	10		
			2	.80	100		10			
7P	23	PULL ENG NO.2 FIRE WARNING SW HANDLE UP	1	1.73	100	100	10	10		P
			2	1.91	100	100	10			P
7P	24	ROTATE ENG NO.2 FIRE WARNING SW HANDLE TO LEFT	1	2.33	100	100	10	10		P
			2	2.53	100	100	10			
			3	2.13	100	100	10			P
7P	25	ROTATE ENG NO.2 FIRE WARNING SW HANDLE TO RIGHT	1	2.53	100	100	10	10		
			2	2.33	100	100	10			
			3					10		
7P	26	ACTUATE ENG NO.2 FIRE WARNING OVRRD SW						10		
								10		
								10		
7P	27	MON L BOTTLE DISCHARGE LT ON	1	.58	100		10	10		P
			2	.27	100		10			P
7P	28	MON L BOTTLE DISCHARGE LT OFF	1	.58	100		10	10		
			1	.27	100		10			
7P	29	MON R BOTTLE DISCHARGE LT ON	1	.58	100		10	10		
			2	.26	100		10			P

7P	30	MON R BOTTLE	1	.58	100			10				
		DISCHARGE LT OFF	2	.26	100			10				
7P	31	MON APU FIRE	1	.98	100			10				P
		WARNING LT ON	2	.54	100			10				
7P	32	MON APU FIRE	1	.98	100			10				
		WARNING LT OFF	2	.54	100			10				
7P	33	PULL APU FIRE	1	1.16	100		100	10				P
		WARNING SW HANDLE UP	2	1.89	100		100	10				P
7P	34	ROTATE APU FIRE	1	2.33	100		100	10				P
		WARNING SW HANDLE	2	2.53	100		100	10				P
		TO LEFT	3	2.13	100		100	10				P
7P	35	ROTATE APU FIRE	1	2.33	100		100	10				
		WARNING SW HANDLE	2	2.53	100		100	10				
		TO RIGHT	3					10				
7P	36	ACTUATE APU FIRE						10				
		WARNING OVERRIDE SW						10				
7P	37	MON APU BOTTLE	1	.27	100			10				P
		DISCHARGED LT ON						10				
7P	38	MON APU BOTTLE	1	.27	100			10				
		DISCHARGED LT OFF						10				
7P	39	MONITOR FIRE ALARM	1	.71	100			10	100			P
		WARNING LT AND BELL						10				
7P	40	PULL FIRE ALARM	1	1.50	100		100	10				
		BELL CUTOUT SW	2	1.20	100		100	10				P
			3	.91	100		100	10				P
7P	41	MON MASTER CAUTION	1	.73	100			10				
		AND OVHT/DET ANNUN						10				
		LTS ON						10				
7P	42	PRESS MASTER CAUTION	1	2.14	100	100		10				
		RESET SW						10				
7P	43	MON OVHT/DET ANNUN	1	.54	100			10				
		LT ON						10				
7P	44	MON OVHT/DET ANNUN	1	.54	100			10				
		LT OFF						10				
7P	45	PRESS ANNUN PNL	1	2.14	100	100		10				
		RECALL SW						10				
7P	46	MON FIRE WARNING	1	.54	100			10	100			P
		BELL AND ANNUN LTS						10				
		ON						10				
7P	47	PRESS FIRE WARNING	1	1.35	100		100	10				P
		ANNUN LT SW						10				
7P	48	MON ENG NO.1 OVRHT	1	.90	100			10				
		DETECT SW ON NORMAL						10				
7P	49	MON ENG NO.2 OVRHT	1	.90	100			10				
		DETECT SW ON NORMAL						10				
7P	50	MON APU DETECT INOP	1	.90	100			10				
		LT ON	2	.54	100			10				
7P	51	MON APU DETECT INOP	1	.90	100			10				
		LT OFF						10				
7P	52	SET OVHT TEST SW	1	.50	100		100	10				
		TO OFF						10				
7P	53	MONITOR LIGHT + BELL	1	.54				10	100	1007P		
		OFF						10				
7Q	01	PRESS CABIN DOOR	1	2.66	50		100	10				
		UNLOCK SW	2	2.44	50		100	10				P
			3	3	50	100		10				
7Q	02	MON CABIN DOOR LOCK	1	1.29	100			10				P
		LT ON						10				
7Q	03	MON CABIN DOOR LOCK	1	1.29	100			10				
		LT OFF						10				

7Q	04	MON MASTER CAUTION AND DOORS ANNUN LTS	1	.73		100			10 10		
7Q	05	PRESS MASTER CAUT RESET SW	1	2.14		100	100		10 10		
7Q	06	MON DOORS ANNUN LT ON	1	.54		100			10 10		
7Q	07	MON DOORS ANNUN LT OFF	1	.54		100			10 10		
7Q	08	PRESS ANNUN PNL RECALL SW	1	2.14		100	100		10 10		
7Q	09	MON FWD ENTRY LT ON	1	1.55		100			10		CP
7Q	10	MON FWD ENTRY LT OFF	1	1.55		100			10		
7Q	11	ACTUATE FWD ENTRY LT TEST SW	1	2.46		100		100	10 10		P
7Q	12	MON AFT ENTRY LT ON	1	1.55		100			10		
7Q	13	MON AFT ENTRY LT OFF	1	1.55		100			10		
			2	1.12		100			10		
7Q	14	ACTUATE AFT ENTRY LT TEST SW	1	1.38		100		100	10 10		P
7Q	15	MON AIR STAIRS LT ON	1	1.12		100			10 10		CP
7Q	16	MON AIR STAIRS LT OFF	1	1.12		100			10 10		
7Q	17	ACTUATE AIR STAIRS LT TEST SW	1	1.41		100		100	10 10		P
7Q	18	MON EQUIP / TIRE BURST LT ON	1	1.12		100			10 10		
7Q	19	MON EQUIP / TIRE BURST LT OFF	1	1.12		100			10 10		
7Q	20	ACTUATE EQUIP / TIRE BURST TEST SW	1	1.38		100		100	10 10		P
7Q	21	MON FWD CARGO LT ON	1	1.12		100			10		CP
7Q	22	MON FWD CARGO LT OFF	1	1.12		100			10		
7Q	23	ACTUATE FWD CARGO LT TEST SW	1	1.39		100		100	10 10		P
7Q	24	MON AFT CARGO LT ON	1	1.12		100			10		
7Q	25	MON AFT CARGO LT OFF	1	1.12		100			10		
7Q	26	ACTUATE AFT CARGO LT TEST SW	1	1.38		100		100	10 10		P
7Q	27	MON FWD SERVICE LT ON	1	1.12		100			10 10		CP
7Q	28	MON FWD SERVICE LT OFF	1	1.12		100			10 10		
7Q	29	ACTUATE FWD SERVICE LT TEST SW	1	1.40		100		100	10 10		P
7Q	30	MON AFT SERVICE LT ON	1	1.12		100			10 10		
7Q	31	MON AFT SERVICE LT OFF	1	1.12		100			10 10		
7Q	32	ACTUATE AFT SERVICE LT TEST SW	1	1.38		100		100	10 10		P
8A	01	VIEW RUNWAY AHEAD	1	2.0	100				5		
			2	75	70				5		
			3	26	50				5		
8A	02	CAPT VIEW THRU NO.1 WINDOW	1	50	70				5		
			2	140	70				5		
			3	60	70				5		
			4	45	70				5		
8A	03	F.O. VIEW THRU NO.1 WINDOW	1	2.0	100				5		
			2	10	10				5		

			3	240	10					5	
			4	26	10					5	
8A	04	CAPT VIEW THRU NO.1 WINDOW	1	100	75					5	
			2	110	75					5	
			3	15	75					5	
			4	30	75					3	
8A	05	CAPT VIEW THRU NO.1 WINDOW	1	10	25					5	
			2	5	25					5	
			3	30	25					5	
			4	60	25					5	
8A	06	CAPT VIEW THRU NO.1 WINDOW	1	300	25					5	
			2	110	25					5	
			3	26	70					5	
			4	134	25					5	
8A	07	F.O. VIEW OUT NO.1 WINDOW	1	134	25					5	
			2	78	25					5	
			3	150	25					5	
			4	10	25					5	
8A	08	CAPT VIEW THRU NO 1	1	285	25					5	
			2	75	25					5	
			3	90	25					5	
			4	20	25					5	
8A	09	F.O. VIEW OUT NO.1 WINDOW	1	110	25					5	
			2	60	25					5	
			3	5	25					5	
			4	30	25					5	
8A	10	CRWMBR EXTERNAL VISION SCAN	1	5	25					5	
			2	10	25					5	
			3	15	25					5	
			4	20	25					5	
8A	11	CRWMBR EXTERNAL VISION SCAN	1	25	25					5	
			2	30	25					5	
			3	35	25					5	
			4	40	25					5	
8A	12	CRWMBR EXTERNAL VISION SCAN	1	45	25					5	
			2	50	25					5	
			3	55	25					5	
			4	60	25					5	
8A	13	CRWMBR EXTERNAL VISION SCAN	1	100	25					5	
			2	200	25					5	
			3	300	25					5	
			4	400	25					5	
8A	14	CRWMBR EXTERNAL VISION SCAN	1	500	25					5	
			2	1000	15					5	
			3	1500	15					5	
			4	2000	15					5	
8A	15	PILOT FLYING SCANS TDZ FOR FLARE CUES	1	26	80					60	
			2	30	80					60	
			3	10	80					60	
8B	01	RECORD DATA	1	15		20		100		10	
			2	2.0		100	50	100		10	
8B	02	RETREIVE CHECKLIST	1	4		10		100		10	
			2	5.9		10		100		10	P19
			3	5.9		10	100			10	
8B	03	READ NEXT ITEM ON CHECKLIST	1	2.0		100				10	
			2	4.0		100				10	
			3	6.0		100				10	
			4	8.0		100				10	
8B	04	REFER TO HANDWRITTEN DATA	1	2.0		100				10	
			2	4.0		100				10	

			3	8.0	100			10			
			4	12.0	100			10			
8B	05	FIND CHECKLIST IN HANDBOOK	1	10.0	100	50	50	10			
			2	5.0	100	50	50	10			
8B160007		RETREIVE/REVIEW APPROACH PLATE						10			
8B160008		REVIEW/ACKNOWLEDGE APPROACH PLATE DATA						10			
8B	08	STOW CHECKLIST	1	3.0	50	50	100	10			
8B	06	RETREIVE CHARTS	1	6	20		100	10			
		APPROACH PLATES	2	6	20		100	10			
8B040001		REVIEW DEPARTURE CHART	1	10.91	100		100	10			P27
			2	10.91	100	100		10			CP14
8B	07	STOW CHARTS	1	5.91			100	10			P28
8B010001		RETREIVE/REVIEW COCPIT SAFETY INSPEC CHECKLIST	1	20	100		100	10			
8B010002		REFER TO DATA TO DETERMINE NAV AND COMM FREQ3S	1	5.	100	100	100	10			
8B010003		CHECK THAT MANIFEST, WEIGHT SHEET, AND RELEASE PAPERS OK	1	15.	100	100	100	10			
8B010004		RETREIVE FLIGHT PLANNING REF. DATA MANUAL	1	3.0	50	100	50	10			
8B010005		STOW FLIGHT PLANNING REF. DATA MANUAL	1	2.0	50	100	50	10			
8B010006		REFER TO REF. DATA AND COMPUTE TAKEOFF EPR BUG SETTING VALUE	1	30.	100	100	100	10			
8B010007		REFER TO REF. DATA AND COMPUTE TAKEOFF V1 AND VR BUG SET VALUES	1	30.	100	100	100	10			
8B090001		READ NEXT ITEM ON CHECKLIST ON CONTROL COLUMN PLACARD	1	1.	100			10			
8B090002		REVIEW CHARTS TO DETERMINE SPARTAN-BURG VOR FREQ	1	5.	100	100		10			8B0903
8B090003		REVIEW CHARTS TO DETERMINE GORDONS-VILLE VOR FREQ	1	5	100	100		10			
8B110001		REVIEW CHARTS TO DETERMINE PULASKI VOR FREQ	1	5	100	100		10			
8B140001		REVIEW CHARTS TO DETERMINE TOCCOA VOR FREQ	1	5	100	100		10			
8B140002		REVIEW CHARTS TO DETERMINE NORCROSS VOR FREQ	1	5	100	100		10			
8B140003		REVIEW CHARTS TO DETERMINE CHATTA-NOOGA VOR FREQ	1	5	100	100		10			
8B160001		DETERMINE GO-AROUND EPR BUG SET VALUE	1	5	100	50	50	10			
8B200001		COMPLETE AIRPLANE	1	30	100	50	50	10			

		AND FLIGHT FORMS									10	
8B160002		DETERMINE LANDING	1	5	100	50	50			10		
		V-REF BUG SET VALUE								10		
8B160003		REVIEW CHARTS/PLATES	1	5	100	50	50			10		
		TO DETERMINE NAVAID	2	19	100	100	100			10		
		APP FREQS								10		
8B020001		RETREIVE LOADING	1	3	100		100			10		
		MANIFEST								10		
8B020002		REVIEW LOADING MANI-	1	3	100		100			10		
		FEST TO DETERMINE								10		
		ZERO FUEL WT								10		
8B020003		STOW MANIFEST	1	2	100		100			10		
8C	01	FASTEN SEAT BELT AND	1	2.20		100	100			10		P220
		HARNESS								10		
8C	02	ADJUST SEAT TO ALIGN	1	10.0	100	100	100	100	100	10		
		BALLS								10		
8C	03	TAKE SEAT	1	3.0	100	100	100	100	100	10		
8D	01	CHECK EMERGENCY	1	10.	100	100	100			10		
		EQUIPMENT								10		
8D	02	CHECK C02 FIRE EXT	1	5.	100	100	100			10		
		BOTTLE								10		
8D	03	CHECK FIRE AXE	1	2.0	100					10		
		INSTALLED								10		
8D	04	CHECK ESCAPE STRAPS	1	1.5	100		100			10		
8E	01	CHECK HEADSET	1	1.5	100	100				10		
8E	02	CHECK SUNVISORS AND	1	3.0	100	100	100			10		
		SMOKE GOGGLES STOWED								10		
8E	03	PUT ON HEADSET	1	3.0	100	100	100			10		
8E	04	RETRIEVE AND PUT ON	1	4	50	100				10		
		SMOKE GOGGLES	2	4	50		100			10		
8F	DUMMY	DUMMY TASK	1	1						10		

SUBSYSTEMS	
1A VHF-1 (FFD)	23-21-02
1B VHF-2 (FFD)	23-21-02
1F INTERPHONE	23-42-03
1G PUBLIC ADDRESS	23-31-00
1H GROUND CREW CALL	23-43-00
1J VOICE RECORDER	23-71-02
1M SELCAL	23-28-00
1N TRANSPONDER	34-53-02
1P VOICE	
1Q VHF-1 (AFD)	23-21-02
1R VHF-2 (AFD)	23-21-02
1S VHF-3 (AFD)	23-21-02
1T LOUDSPEAKER	
2H ADV GDC CNTRL SYS (AGCS)	
2J ELEC ATT DIREC INDIC (EADI)	
2K MULTI-FUNCTION DISPLAY (MFD)	
2L NAV CNTRL DISP UNIT (NCDU)	
3A AIRSPEED INDIC	
3F MACH INDIC	34-13-06
3H CORRECTED BARO ALTITUDE INDIC	34-13-04
3J RADIO ALTIMETER	34-30-00
3K ALTITUDE ALERT SYS	34-16-00
3L VERTICAL SPEED INDIC	34-13-01
3M ELAPSED TIME INDIC	31-25-00
3N CLOCK	31-25-00
3P STANDBY ATTITUDE REF INDIC	34-24-00
3Q FLIGHT RECORDER	31-31-02
3R FLIGHT DIRECTOR INDIC (FDI)	34-41-05

3S	COURSE INDIC (CI)	34-41-06
3U	TOTAL AIR TEMP INDIC	34-13-07
3V	APPROACH PROGRESS DISPLAY	34-34-00
3W	INSTRUMENT COMPARATOR DISPLAY	34-44-00
4A	PRIMARY ATTITUDE CONTROLS	27-00-00
4B	PROPULSION CONTROLS/THROTTLES	76-11-00
4C	THRUST REVERSER CONTROLS	78-34-00
4D	LANDING GEAR AND BRAKES	32-00-00
4E	FLAPS	27-50-00
4F	SPEED BRAKES	27-62-00
4G	TRIM	
4H	AUTO FLIGHT CONTROLS	22- -00
4M	NOSE WHEEL STEERING	32-51-00
4N	LEADING EDGE DEVICES	27-81-00
5D	ADF/RMI 1	34-57-01
5E	ADF/RMI 2	34-57-02
5G	VOR/RMI 1	34-31-01
5H	VOR/RMI 2	34-31-01
5J	VORTAC	34-31-00
5K	STANDBY COMPASS	34-22-00
5P	DME-1	34-55-00
5Q	DME-2	34-55-00
5U	VHF/NAV-1 (FFD)	
5V	VHF/NAV-2 (FFD)	
5W	VHF/NAV-1 (AFD)	
5X	VHF/NAV-2 (AFD)	
5Y	VHF/NAV-3 (AFD)	
6A	WEATHER RADAR	34-43-00
6C	TELEVISION	
7A	HYDRAULIC SUBSYSTEM	29-00-00
7B	ELECTRICAL SUBSYSTEM	24-00-00
7C	FUEL SUBSYSTEM	28-00-00
7D	AIR CONDITIONING SUBSYSTEM	21-00-00
7E	CABIN PRESSURE SUBSYSTEM	21-31-03
7F	PROPULSION SUBSYSTEM	23-20-00
7G	FLIGHT SUBSYSTEM	33-00-00
7H	OXYGEN SUBSYSTEM	35-00-00
7J	ANTI-ICE SUBSYSTEM	30-00-00
7K	RAIN REMOVAL AND DEFOG SYBSYS	30-40-00
7L	AUX POWER UNIT	49-61-00
7M	ENGINE START CONTROLS	74-31-00
7P	FIRE/OVERHEAT/SMOKE DETEC	26-00-00
7Q	DOORS	
8A	PILOT/COPILOT EXT VISION	
8B	MAPS/ CHARTS/CHKLST/REF/DATA	
8C	SEATS/SEATBELTS	
8D	EMERGENCY EQUIPMENT	
8E	PERSONAL EQUIPMENT	

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
NASA CR-3239		

4. Title and Subtitle	5. Report Date
NASA TLA Workload Analysis Support Volume 2 - Metering and Spacing Studies Validation Data	July 1980
	6. Performing Organization Code
7. Author(s)	8. Performing Organization Report No.
James L. Sundstrom	
9. Performing Organization Name and Address	10. Work Unit No.
Boeing Commercial Airplane Company P. O. Box 3707 Seattle, Washington 98124	513-52-13-33
	11. Contract or Grant No.
	NAS1-13741
12. Sponsoring Agency Name and Address	13. Type of Report and Period Covered
National Aeronautics and Space Administration Washington, DC 20546	Contractor Report
	14. Army Project No.

15. Supplementary Notes

Langley Technical Monitor: Amos A. Spady, Jr.
Topical Report

16. Abstract

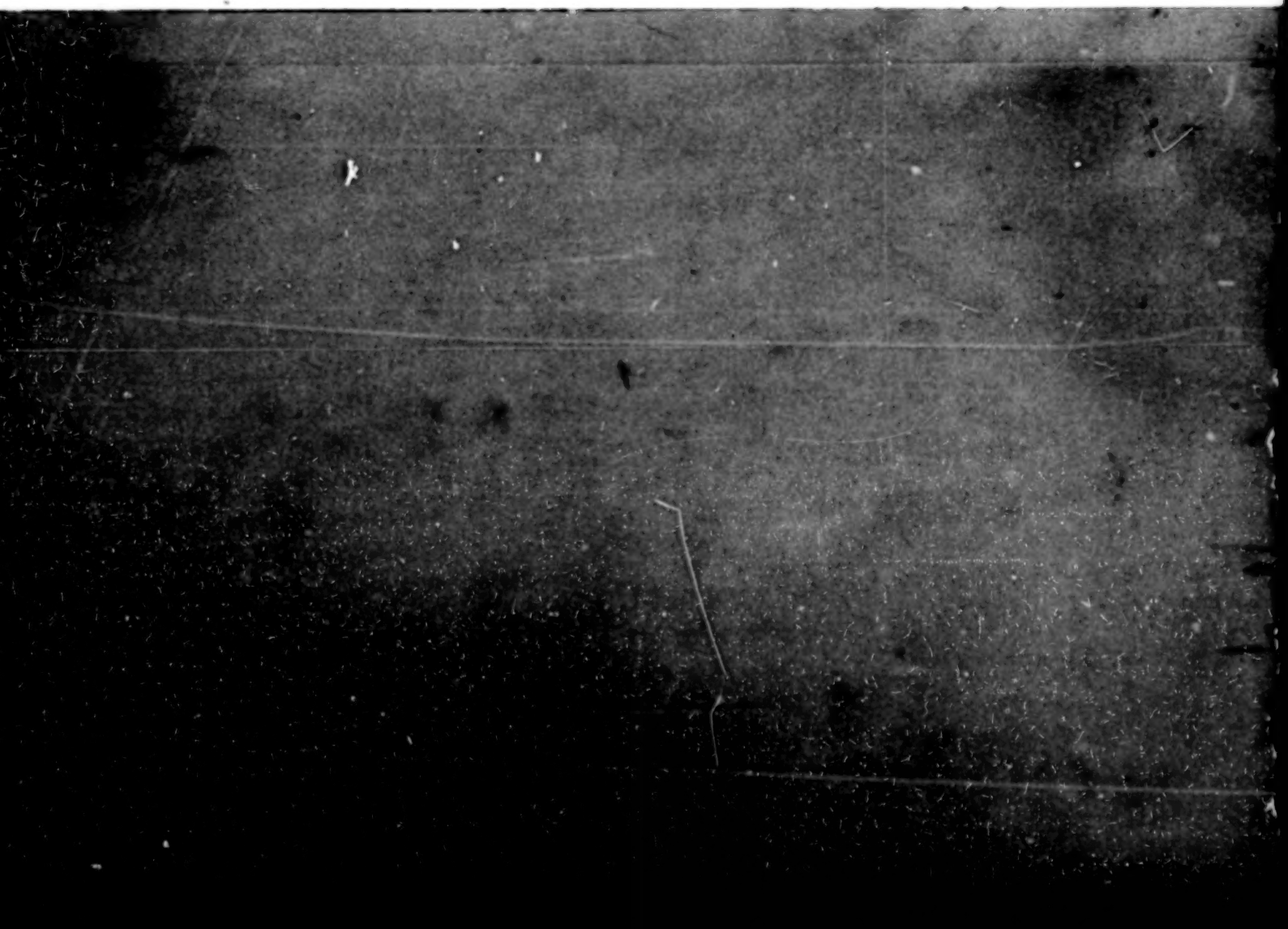
The data presented in this report were used to validate the detail task of both the pilot and copilot for four metering and spacing scenarios. The output presents two measures of demand workload and a report showing task length and task interaction.

17. Key Words (Suggested by Author(s))	18. Distribution Statement
Task scenario, General aviation single pilot timeline analysis, Crew workload, Metering and spacing, TCV	Unclassified - Unlimited Subject Category 53

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price*
Unclassified	Unclassified	400	$13.00

*For sale by the National Technical Information Service, Springfield, Virginia 22161

NASA-Langley, 1980



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June 29, 1981